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**MATERIEL DEVELOPMENT**  
**AND READINESS COMMAND**

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**M**ANUFACTURING  
**M**ETHODS &  
**T**ECHNOLOGY

**PROJECT EXECUTION**  
**REPORT**

**FIRST CY 81**

**PREPARED BY**

**AUGUST 1981**

**USA INDUSTRIAL BASE ENGINEERING ACTIVITY**

**MANUFACTURING TECHNOLOGY DIVISION**

**ROCK ISLAND, ILLINOIS 61299**

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  This document is a summary compilation of the Manufacturing Methods and Technology Program Project Status Reports (RCS DRCMT-301) submitted to IBEA from DARCOM major Army subcommands and project managers. Each page of the computerized section lists project number, title, status, funding, and projected completion date. Summary pages give information relating to the overall DARCOM program.		



DEPARTMENT OF THE ARMY  
US ARMY INDUSTRIAL BASE ENGINEERING ACTIVITY  
ROCK ISLAND, ILLINOIS 61299

REPLY TO  
ATTENTION OF:

DRXIB-MT

15 SEP 1981

SUBJECT: Manufacturing Methods and Technology (MMT) Program Project  
Execution Report, First Half CY81

SEE DISTRIBUTION

1. Reference AR 700-90, C1, paragraph 3-8e(1), 10 Mar 77, subject: Logistics, Army Industrial Preparedness Program.
2. The Project Execution Report is a summary compilation of the MMT Program Project Status Reports (RCS DRCMT-301) submitted to IBEA from DARCOM major Army subcommands (SUBMACOM) and project managers. This document is used as a management tool for monitoring the progress of MMT projects. There are separate sections in the report showing projects that are new, active, and completed. Also, included is a discussion of the overall DARCOM Program.
3. Persons who are interested in the details of an individual project should contact the manufacturing technology representative at the SUBMACOM. A list of those representatives is included in Appendix IV to this report. The Project Officer for this task is Ms. L. Hancock, AUTOVON 793-6521.

J. R. GALLAUGHER  
Director  
Industrial Base Engineering Activity

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## DISCUSSION

### BACKGROUND

The Army Manufacturing Methods and Technology (MMT) Program was established in 1964 as a part of the Army Production Base Support (PBS) Program. The MMT Program has goals of improving existing manufacturing technology, translating new technology into production line processes, and supporting the modernization and expansion of the military hardware production base. The program is governed by the provisions of AR 700-90, Chapter 3, which has been recently updated and submitted to the field in its draft form.

### COMPOSITION OF THE REPORT

This MMT Project Execution Report provides the status summaries of 542 active projects which have a total authorized cost of \$246,420,500. Total MMT program statistics, as well as the summaries of the active projects are also included. The report is compiled, edited, and published for HQ, DARCOM by the Manufacturing Technology Division of the Army Industrial Base Engineering Activity (IBEA) in accordance with AR 700-90, C1, paragraph 3-8e(1).

Distribution of this report is extended to Army materiel developers and users and to counterparts in the Navy and the Air Force. Inquiries on the detailed technical aspects of any individual project may be answered by the MMT Program representative of the action command under which the project was completed or is being executed. Inquiries or suggestions concerning this report or other facets of the MMT Program may also be directed to the Manufacturing Technology Division of IBEA.

The report is composed of three major sections:

a. Projects Added 1st Half, CY81 - A list divided by organization of all projects funded during the first half of CY81. Included is a narrative of the problem for each project.

b. Projects Completed 1st Half, CY81 - A list divided by organization of all projects completed during the first half of CY81. Included is a narrative of the final status for each project.

c. Summary Project Status Report - These reports are divided by organization and include a summary of funding by fiscal year and a narrative status for each project.

## FINAL STATUS REPORTS

Manufacturing Methods and Technology (MMT) projects have in the past been closed out with the submission of a final project status report. In May 1981 a letter from the Office of Manufacturing Technology was distributed to all MMT Representatives establishing the following procedural changes for the submission of final status reports:

- a. Final status reports will be submitted as projects are completed instead of being accumulated and submitted semiannually.
- b. Final status reports will not be submitted without a completed technical report.

In compliance with the above letter any final status report that was submitted to IBEA this period without a technical report was not accepted as a final. The reports were mailed back to the commands stating that a project would not be closed out until a completed technical report accompanies the final status report. There were sixty-five (65) final status reports submitted to IBEA for the 1st half CY81. Forty-one (41) of these reports were sent back. Twenty-four (24) reports were accepted due to the accompaniment or previous submission of a technical report. The twenty-four completed projects can be found in a separate section on page 35 which gives a final work status for each project.

## DELINQUENT STATUS REPORTS

Accuracy of project information depends on the quality of the project status reports submitted to IBEA from the commands. Efforts were again made this period to improve the quality of individual reports. Any report containing significant errors or inadequate description of accomplishments was sent back to the command for correction.

Accuracy also depends on a complete submission of all the project status reports for each command. In June, a call letter was mailed out to each SUBMACOM. Inclosed with this letter was a computerized listing of the projects for which a status report was required for this reporting period. There were 76 reports, which five weeks after the due date, were not submitted. This is an increase of 46 reports compared to the last report period. This is also the largest number of delinquencies recorded in the last two years. This delinquency creates a significant void in the information presented in the compiled report. Improvement must be made in this area to insure a useful review of the progression of the MMT Program.



The following list shows the number of delinquent reports within each command.

DARCOM	0
MERADCOM	0
CECOM	1
DESCOM	0
ERADCOM	1
AMMRC	3
NLABS	0
TECOM	0
AVRADCOM	14
MICOM	38
TACOM	1
ARRADCOM/ARRCOM	17
(AMMO)	
ARRADCOM/ARRCOM	1
(WPNS)	
TSARCOM	0

#### PROGRAM SUMMARY

Manufacturing Methods and Technology (MMT) Projects and Efforts are major elements of the Army's Manufacturing Technology (MANTECH) Program. AR700-90 succinctly describes the MANTECH objective as the improvement of the industrial readiness and efficiency of the production base for Army materiel. Further defined objectives are stated in the Statement of Principles for the DOD Manufacturing Technology Program. This Statement, originating at the Deputy Under Secretary of Defense level, not only establishes ground rules for the Program but highlights the level of emphasis that the Program receives.

To attain the objectives described in the Statement of Principles, the Army funds discrete work units, called Projects, on a yearly basis. These projects, identified by a seven-digit number, contain work requests, which upon completion will result in an end product whose technical transfer can be effected. At times, in order to have a total work package which is implementable, (i.e., which can achieve the payback for which the work was funded) the scope can be of such a magnitude that total funding in one fiscal year can be an inefficient use of resources. In this event, the total work might be multi-year funded, (i.e., be more than one project, each having a technically transferrable end product). These total implementable work units are called "Efforts". These efforts can consist of many projects or just be one project, depending on the amount of work required to achieve the implementable technical goal. Efforts are identified by a four-digit number which is the same as the last four digits of a project or projects which make up the effort.

The following three charts (Figures 1-3) summarize MMT project reporting and funding status for the 1st Half of CY81. These summaries include data from the major Army subcommands (SUBMACOM) that have active projects and the AMMRC and DARCOM sponsored projects. Cumulative figures pertaining to project distribution and expenditures of funds on contract and in-house are provided. Projects that were closed out during the reporting period are not included in the data used for these summaries.

A summary of the MMT Program (Figure 1) indicates that the number of active projects has increased by 4% in comparison with the 1st half of CY80. The comparison is made between parallel reporting periods (1st half, CY80 and 1st half, CY81) in order to observe the project number and funding changes that occur within each command and within the total program. The

#### MMT PROGRAM SUMMARY

Organization	Number of Projects			Funding Status		Percent Change
	1st Half CY80	1st Half CY81	Percent Change	1st Half CY80	1st Half CY81	
DARCOM/DESCOM	6	9	50	2,605,000	3,682,000	41
MERADCOM	19	19	0	5,189,900	5,204,000	0
CECOM	8	11	38	3,138,100	5,383,100	72
ERADCOM	44	44	0	26,075,000	28,953,300	11
AMMRC	6	6	0	14,157,500	13,928,000	-2
NLABS	5	4	-20	1,541,600	637,100	-59
TECOM	3	3	0	2,438,000	2,453,000	1
AVRADCOM/TSARCOM	61	73	20	17,244,300	25,156,300	46
MICOM	67	66	-1	25,545,200	26,237,700	3
TACOM	34	44	29	13,268,400	16,387,700	24
ARRADCOM/ARRCOM (Ammo)	190	172	-9	108,479,400	99,898,800	-8
ARRADCOM/ARRCOM (Weapons)	78	91	17	15,178,600	18,499,500	22
TOTAL	521	542	4	234,861,000	246,420,500	5

Figure 1

data on this chart shows projects that were active for the period January through June 1981. It can be noted that the largest increases in number of projects were AVRADCOM/TSARCOM, ARRADCOM/ARRCOM (Wpns), and TACOM. These increases were due to the fact that several projects were not closed out because technical reports were not submitted. Another reason for the AVRADCOM/TSARCOM increase would be the introduction of two TSARCOM projects into the active program. This introduction of new commands would also apply to the increase for the DARCOM/DESCOM projects. DESCOM now has two



additional projects in the active program. The largest increase in funding percentagewise was CECOM with 72% and in dollars was AVRADCOM/TSARCOM with \$7.9 million. The new TSARCOM projects also helped contribute to this increase in dollars. The largest decrease in dollars was ARRADCOM/ARRCOM (Ammo) which showed a reduction of \$8.6 million.

A breakout of the active projects by fiscal year is shown in Figure 2. It can be noted that two FY75 projects are still active in spite of

ACTIVE PROJECTS BY FISCAL YEAR

Organization	73	74	75	76	77	78	79	80	81	TOTAL
DARCOM/DESCOM					1	1	1	2	3	9
MERADCOM						1	6	5	6	19
CECOM				1		1	2	2	5	11
ERADCOM				2	8	5	10	12	7	44
AMMRC							2	2	2	6
NLABS						1	1	2		4
TECOM							1	1	1	3
AVRADCOM/TSARCOM						2	5	11	26	73
MICOM							7	13	24	66
TACOM					1	5	10	11	17	44
ARRADCOM/ARRCOM (Ammo)			1	4	1	9	20	50	36	172
ARRADCOM/ARRCOM (Weapons)			1	1		6	6	16	30	91
TOTAL	0	0	2	8	3	28	51	123	160	542

1st CY80 TOTAL	1	1	7	25	4	52	101	166	164	0	521
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Figure 2

continuing emphasis to close out older projects. The only requirement left for either project is the completion and distribution of a final technical

report. Until such time that the new requirement for a technical report to be submitted with a final 301 becomes a routine action, it is expected that the progress which has been made on closing out older projects will level out. On the other end of the MMT program span is the 160 FY81 projects. The FY81 funding is now nearly complete so this value should only increase slightly by the next reporting period. The amount of FY81 projects (160) is very close to the amount of FY80 projects (164) that were funded at this same time last year (1st half, CY80).

Figure 3 indicates at what rate the project funds are being expended. In the past the active MMT has shown a relatively constant 50-50

#### PROGRAM FUNDING EXPENDITURES

(MILLIONS)

Organization	Projects	Authorized Funding	Contractor		In-House	
			Amount	Expended	Remaining	Expended
DARCOM/DESCOM	9	\$ 3.7	\$ 2.4	\$ 1.0 (40%)	\$ 1.3	\$ 0.3 (23%)
MERADCOM	19	5.2	3.6	2.1 (56%)	1.6	0.3 (16%)
CECOM	11	5.4	2.1	1.5 (69%)	3.3	0.2 (6%)
ERADCOM	44	29.0	23.4	13.3 (57%)	5.6	1.9 (33%)
AMMRC	6	13.9	6.0	2.6 (43%)	7.9	7.5 (95%)
NLABS	4	0.6	0.5	0.4 (80%)	0.1	*0.1 (43%)
TECOM	3	2.5	0.2	*0.2 (97%)	2.2	1.3 (60%)
AVRADCOM/TSARCOM	73	25.2	14.0	9.1 (64%)	11.2	2.5 (22%)
MICOM	66	26.2	12.0	7.3 (60%)	14.2	2.2 (15%)
TACOM	44	16.4	9.7	6.0 (61%)	6.7	1.8 (27%)
ARRADCOM/ARRCOM (Ammo)	172	99.9	54.0	33.5 (62%)	45.9	22.5 (48%)
ARRADCOM/ARRCOM (Weapons)	91	18.5	4.5	2.8 (61%)	14.0	4.1 (29%)
TOTAL	542	\$246.4	\$132.4	\$79.8 (60%)	\$114.0	44.7 (39%)
1st CY80 TOTAL	521	\$234.9	\$117.1	\$64.6 (55%)	\$117.8	\$52.5 (45%)

Figure 3

\*All values rounded to one decimal place.

contractor/in-house ratio. This is evidenced by the \$117 million figure for both the contractor and in-house elements for the first CY80. For the

first CY81 these values (\$132 million vs. \$114 million) are more heavily weighted on the contractors side reflecting a greater contractor participation in the MMT program. Figure 3 also shows that compared to the same period last year, contractor expenditures are up (60% vs. 55%) and in-house expenditures are down (39% vs. 45%). For the contractor expenditures this is felt to be, in part, a reflection of the additional projects remaining in the active program due to non-submission of technical reports. These older, physically completed projects would have all the contractor funds expended, thus increasing the expenditure percentage. While this is also true for older in-house projects, the late funding of some of the FY81 program resulted in some contracts not yet being let and thus being tabulated under remaining in-house funds. The net result for in-house expenditures is the 6 percentage point drop shown in figure 3. The 76 delinquent projects will also have an impact on this chart. There would have been additional in-house and contract funds expended that were not reported to IBEA.

## MMT PROGRAM

PROJECTS ADDED 1st HALF, CY81



PROJECTS ADDED IN 1ST HALF, CY81

DARCOM

D 81 5052

ARMY ENGINEERING DESIGN HANDBOOKS

TECHNICAL SCIENTIFIC AND ENGINEERING DATA IS CONTINALLY BEING GENERATED WITHIN THE ARMY AND NEEDS TO BE COLLECTED IN APPROPRIATE DOCUMENTS.

MERADCOM

E 81 3743

COMPOSITE SPUN MATERIAL LAUNCHING BEAM FOR BRIDGES

PROVIDE LIGHT WEIGHT TRAVERSING BEAM WITH LIGHT WEIGHT AND LOW FLEXIBILITY.

E 81 3745

MMT AL SKIN-GRAPHITE/EPOXY SANDWICH BRIDGE REINFORCEMENT

FORMULATION OF PROCEDURES TO MASS PRODUCE ALUMINUM SKIN-GRAPHITE EPOXY SANDWICH MATERIAL FOR BRIDGE STRUCTURAL MEMBERS.

E 81 3749

HYDRAULIC ROTARY ACTUATORS FOR M9

ROTARY ACTUATOR MODELS HAVE NEVER BEEN PRODUCED ON A QUANTITY BASIS.

CECOM

F 81 3050

EPITAXY OF III-V SEMICONDUCTOR PHOTODETECTORS

INTRINSIC AND INDUCED LOSSES LIMIT RANGE OF FIBER OPTIC TRANSMISSION. PRODUCTION MEANS WILL BE NEEDED FOR PHOTODETECTOR CAPABLE OF OPERATION IN SPECTRAL REGION INTRINSICALLY LESS SUSCEPTIBLE TO SUCH LOSSES.

F 81 3057

HIGH STABILITY VIBRATION RESISTANT QUARTZ CRYSTALS

CURRENT CRYSTAL RESONATORS SHOW FREQUENCY CHANGES WITH ACCELERATION. THIS IS A SERIOUS PROBLEM WHERE THE RESONATOR MUST OPERATE IN A VIBRATORY ENVIRONMENT. CONSEQUENCES ARE ESPECIALLY SEVERE WHEN EQUIPMENT MUST OPERATE IN A JAMMING ENVIRONMENT.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

F 81 9851

TACTICAL MINIATURE CRYSTAL OSCILLATORS

STATE-OF-THE-ART PRECISION QUARTZ OSCILLATORS DO NOT MEET THE PERFORMANCE, PRODUCIBILITY, AND COST CRITERIA NEEDED FOR PLANNED EQUIPMENT. TACTICAL MINIATURE CRYSTAL OSCILLATOR (TMXO) IS HIGH PERFORMANCE BUT REQUIRES NEW PRODUCTION TECHNIQUES.

DESCOM

G 81 4002

ROBOTIZED WELDING OF M113A2 SUSPENSION

THE CURRENT METHOD OF WELDING THE M113A2 SUSPENSION SYSTEM IS TIME CONSUMING AND LABOR INTENSIVE.

G 81 4005

WATER JET MATERIAL REMOVAL SYSTEM

CURRENT PRODUCTION METHODS OF REMOVING RUBBER FROM TRACK COMPONENTS ARE LABOR INTENSIVE AND PRESENT ENVIRONMENTAL AND SAFETY HAZARDS TO THE WORKERS.

ERADCOM

H 81 3505

HIGH CONTRAST CRT PHOSPHOR DEPOSITION AND SEALING

HIGH CONTRAST CRT AVIONIC DISPLAYS FOR DAY-NIGHT NIGHT VISION GOGGLES ARE CURRENTLY UNAVAILABLE. OPTICAL FILTERS ARE ENVIRONMENTALLY LIMITED FOR THIS APPLICATION. PHOSPHOR TECHNIQUES ARE AVAILABLE BUT OPTIMIZATION AND ECONOMICS HAVE NOT BEEN SHOWN.

H 81 5041

MILLIMETER-WAVE MIXERS

LOW NOISE RUGGEDIZED REPRODUCIBLE MIXERS ARE NEEDED FOR RECEIVERS FOR RADAR ELECTRONIC WARFARE TERMINAL HOMING AND MISSILE GUIDANCE.

H 81 9588

THIRD GENERATION LOW COST IMAGE INTENSIFIER TUBES

TYPICAL MANUFACTURING METHODS REQUIRE THE USE OF AN EXCESSIVE AMOUNT OF HAND LABOR WHICH CONTRIBUTES TO HIGH UNIT COSTS FOR THE INTENSIFIER TUBE.



PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

H 81 9889

18MM THRID GENERATION 0.9 MICRON WAFER INTENSIFIER TUBE

THIRD GENERATION IMAGE TUBE TECHNOLOGY WILL ALLOW FOR OPERATIONS TO BE EXTENDED TO OVERCAST STARLIGHT LEVELS. PRESENT TECHNIQUES RESULT IN LOW YIELD AND LOW VOLUME PRODUCTION.

H 81 9909

PRODUCTION TECHNIQUES FOR 51 MW PWR TRANSISTORS

AS THE CONCENTRATION OF INTEGRATED CIRCUITS INCREASES THE HEAT DENSITY IS REACHING THE POINT WHERE IT WILL DESTROY THE SEMICONDUCTOR DEVICES.

AMMRC

M 81 6350

MMT MATERIALS TESTING TECHNOLOGY

DESTRUCTIVE AND CERTAIN CONVENTIONAL NON-DESTRUCTIVE TESTING TECHNIQUES ARE RESPECTIVELY UNSUITED AND INADEQUATE OR HARD TO BE ADAPTED TO ON-LINE PRODUCTION TESTING USAGE.

AVRADCOM

1 81 7243

MACHINING OPERATIONS ON KEVLAR LAMINATED CONSTRUCTIONS

PRESENT METHODS OF MACHINING KEVLAR LAMINATES TEND TO CAUSE DELAMINATION AND EXCESSIVE FUZZING OR FRAYING OF THE CUT EDGES. THIS NECESSITATES THE USE OF TIME CONSUMING AND REPETITIVE TECHNIQUES TO ACHIEVE ACCEPTABLE MACHINED SURFACES.

1 81 7382

LOW COST COMPOSITE MAIN ROTOR BLADE FOR THE UH-60A

MANUFACTURING TECHNOLOGY FOR CURING GLASS AND GRAPHITE FILAMENT WOUND MAIN ROTOR BLADES HAS NOT BEEN ESTABLISHED FOR THE PRODUCTION ENVIRONMENT.

1 81 7412

INFRARED DETECTOR FOR LASER WARNING RECEIVER

SUPPLY OF GALLIUM ARSENIDE ETALONS FOR USE AS IR DETECTORS IS LIMITED. METHODS FOR DIFFUSING THE DETECTOR JUNCTION, FOR SURFACE PASSIVATION, FOR BONDING THE INTERDIGITATED ETALON TO THE INTERDIGITATED DETECTOR ARE LARGELY HAND METHODS.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

MICOM

3 81 1042

PRODUCTION OF COMPOSITE RADOME STRUCTURES

THE BASIC MATERIAL FOR COMPOSITE RADOMES IS EXPENSIVE (\$25/LB). THE FABRICATION PROCEDURES FOR PRODUCING THE RADOME STRUCTURE ARE COMPLEX AND EXPENSIVE, WITH SOME PROCEDURES BEING PROPRIETARY.

3 81 1044

CONTINUOUS PROCESS FOR PROPELLANT MANUFACTURE

PROPELLANT MANUFACTURE IS GENERALLY A BATCH PROCESS WITH INHERENT PROBLEMS. CURE ACCELERATORS MUST BE AVOIDED SINCE THEY SHORTEN POT LIFE. THE PROCESS HAS HIGH LABOR REQUIREMENTS. HIGH VISCOSITIES RESULT IN DISCARDING THE BATCH.

3 81 1050

LOW COST BRAIDED ROCKET MOTOR COMPONENTS

ROCKET MOTOR COSTS TO MEET DESIGN-TO-COST PRODUCTION GOALS HAVE DICTATED REEVALUATION OF MATERIALS AND PROCESSES. MISSILE CASES COMPRISE 1/2 OF PROPULSION SYSTEM COST. EMPHASIS MUST BE PLACED ON ESTABLISHING NEW COMPONENT MFG PROCESSES.

3 81 1051

REPLACEMENT OF ASBESTOS IN ROCKET MOTOR INSULATIONS

PRESENT ASBESTOS CONTAINING INSULATORS CAN NO LONGER BE MANUFACTURED AFTER 1981 DUE ITS BEING IDENTIFIED AS A CARCINOGEN. THUS THE GOVT HAS LOST THE CAPABILITY OF USING INSULATING MATERIALS THAT HAS PROVEN TO BE AN EXCELLENT THERMAL BARRIER.

3 81 1060

ELECTRICAL TEST AND SCREENING OF CHIPS

ONE UNRELIABLE CHIP IN MILITARY ELECTRONIC ASSEMBLIES CAUSES REJECTION OR DESTRUCTION OF THE ENTIRE PACKAGE. PRESENT MEANS FOR DETERMINING CHIP RELIABILITY OR INTEGRITY IS A PROBE TESTING TECHNIQUE WHICH IS TIME CONSUMING AND DESTRUCTIVE.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

3 81 1063

SEMIADDITIVE REEL TO REEL FLEX PRINT PROCESS

CONVENTIONAL BATCH PROCESSING OF PRINTED WIRING BOARDS IS LABOR INTENSIVE. HAND LABOR IS BOTH COSTLY AND SUBJECT TO ERRORS WHICH ADDS REJECT LOSSES TO LABOR COSTS.

3 81 1072

MULTIPLE HIGH RELIABILITY/LOW VOLUME LSI MFG

LOW VOLUME PURCHASE OF LSI CHIPS DOES NOT LEND ITSELF TO CIRCUIT VARIATIONS. LARGER THAN NEEDED NUMBERS OF CHIPS MUST BE ORDERED TO GET THE PRODUCER'S ATTENTION. A LOW-VOLUME CHIP CAPABILITY IS NEEDED.

3 81 1073

REAL TIME ULTRASONIC IMAGING

EXISTING ACOUSTICAL HOLOGRAPHY INSP. SYS PRODUCES UNSATISFACTORY VIDEO IMAGES DUE TO POOR RESOLUTION, SIGNAL NOISE AND LOW SPATIAL FREQ. ABERRATIONS.

3 81 1075

ELECTRONICS COMPUTER AIDED MANUFACTURING (ECAM)

ALTHOUGH INTEGRATED CIRCUITS, HYBRID CIRCUITS, PRINTED CIRCUITS AND CABLES ARE DESIGNED ON A COMPUTER, THERE IS LITTLE COMPUTERIZED CONTROL OF PROCESSES USED TO PRODUCE THESE ITEMS. A MASTER PLAN IS NEEDED TO DEFINE THE AREA AND REQUIREMENTS.

3 81 1076

PATTERN RECOGNITION OF COMPONENTS F/HYBRID CIRCUIT SUBSTRATE

INABILITY TO RECOGNIZE THE TOPOGRAPHY OF MORE THAN SIX TO SEVEN CHIPS ON A HYBRID SUBSTRATE. MILITARY HYBRID CIRCUITS CARRY TEN TO FIFTEEN TYPE ACTIVE COMPONENTS.

3 81 1086

COBALT REPLACEMENT IN MARAGING STEEL F/ROCKET MOTOR COMP

CURRENT HIGH PERFORMANCE ROCKET MOTOR COMPONENTS UTILIZE MARAGING STEELS IN LARGE QUANTITIES. COBALT, ONE OF THE KEY INGREDIENTS COMES FROM POLITICALLY SENSITIVE AREAS AND IS BECOMING DIFFICULT TO OBTAIN.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

- 3 81 1088  
OPTIMIZED MANDREL FAB AND UTILIZATION F/COMP MOTOR CASES  
  
OPTIMIZING PRODUCTION PROCEDURES TO OBTAIN LOWEST UNIT COST WHILE MAINTAINING RELIABILITY IN FABRICATION.
- 3 81 1108  
RF AND LASER HARDENING OF MISSILE DOMES  
  
CURRENT RADOMES ARE SUSCEPTIBLE TO DAMAGE BY LASER ENERGY AND ALSO PERMIT LASER AND RADIO FREQUENCY ENERGY TO DAMAGE THE DETECTOR.
- 3 81 1109  
ROBOTIZED WIRE HARNESS ASSEMBLY SYSTEM  
  
WIRE HARNESS FABRICATION IS A LABOR INTENSIVE PROCESS. APPROXIMATELY 50% OF HARNESS FABRICATION TIME IS DEVOTED TO HANDLING, SORTING, AND IDENTIFICATION. HARNESS ASSEMBLY IS DONE BY HAND. PROCEDURES USE SEVERAL WORKSTATIONS AND REPEATED HANDLING.
- 3 81 3115  
ENGINEERING FOR METROLOGY AND CALIBRATION  
  
MEASUREMENT SCIENCES OR METROLOGY MUST BE CONTINUALLY ADVANCED IN RELEVANT TECHNOLOGY AREAS TO KEEP PACE WITH MANY ARMY PROGRAMS.
- 3 81 3263  
PWB'S UTILIZING LEADLESS COMPONENTS  
  
THE VOLUME, WEIGHT, QUANTITY, RELIABILITY AND COST OF PCB'S USING AXIAL LEADED COMPONENTS CAN BE SUBSTANTIALLY IMPROVED.
- 3 81 3423  
LOW COST/HIGH PERFORMANCE CARBON-CARBON NOZZLES  
  
ROCKET SYSTEMS USING HIGH PERFORMANCE CARBON/CARBON OR PYROLYTIC GRAPHITE NOZZLES INCUR HIGH COMPONENT COST.
- 3 81 3447  
RECOVERY OF CARBORANES FROM WASTE PROPELLANT  
  
THE PRODUCTION OF N-HEXYLCARBORANE (NHC) RESULTS IN UP TO 10 PCT REJECTED MATERIAL BECAUSE IT WILL NOT MEET BALLISTIC RATE REQUIREMENTS.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

3 81 3449

ALTERNATE PROCESS FOR IPDI

A NUMBER OF CHEMICAL INGREDIENTS USED IN SOLID ROCKET PROPELLANTS HAVE BECOME UNAVAILABLE BECAUSE SOME OF THE REAGENTS ARE HAZARDOUS.

TACOM

T 81 5019

STORAGE BATTERY-LOW MAINTENANCE

THE MAJOR CAUSE OF TACTICAL VEHICLE BATTERY FAILURE IS BATTERY CONTAINER BREAKAGE.

T 81 5085

PRODUCTION TECH F/FAB TURBINE RECUPERATOR

CURRENT METHOD REQUIRES A LARGE NUMBER OF WELDS TO FABRICATE COMPONENT.

T 81 5091

HEAVY ALUMINUM PLATE FABRICATION (PHASE I)

MANY COMBAT AND TACTICAL VEHICLE HULLS AND THEIR COMPONENTS ARE FABRICATED FROM HEAVY ALUMINUM PLATE. CUTTING THIS HEAVY ALUMINUM PLATE TO SPECIFIED CONTOURS AND WELDING THE PIECES TOGETHER REQUIRES A GREAT DEAL OF MANUAL LABOR.

T 81 6028

PRODUCTION QUALITY CONTROL BY AUTOMATED INSPECT EQUIPMENT

THE INCREASED COMPLEXITY OF COMBAT VEHICLES HAS RESULTED IN EXCESSIVE TIME AND HIGH SKILL LEVEL REQUIREMENTS FOR INSPECTION AND TEST.

T 81 6059

M2 AND M3 FIGHTING VEHICLE SYSTEM

MATERIALS AND MANUFACTURING PROCESSES EMPLOYED IN THE MFG OF THE FVS CAN BE IMPROVED BY INCORPORATING NEW TECHNOLOGIES TO THE CURRENT SYSTEM. THIS WILL ENABLE THE FVS TO BE MANUFACTURED MORE ECONOMICALLY.

ARRADCOM-ARRCOM (AMMO)

5 81 1001

PILOT LINE FOR FUZE FLUIDIC POWER SUPPLIES

FLUIDIC GENERATORS ARE COMPLEX AND COSTLY TO PRODUCE. IN PRODUCTION, CLOSE TOLERANCES AND SMALL PART ASSEMBLY ARE REFLECTED IN HIGH COST AND LOW YIELD.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

5 81 1019

CONVERSION OF PENTABORANE-REDUCE CARBORANE COST-PHASE II

THE DIBORANE (B2) USED IN THE MANUFACTURE OF DECABORANE (B10) IS A COST DRIVER.

5 81 1335

TECH FOR NEW PROTECTIVE MASK

FABRICATION OF ONE-PIECE PLASTIC MASKS WITH ADEQUATE OPTICAL CHARACTERISTICS IS DIFFICULT. VISION REDUCTION AND DISTORTION ARE CRITICAL.

5 80 1339

CHEMICAL AGENT DETECTOR PRODUCTION WASTE DISPOSAL

DUE TO THE CARCINOGENIC PROPERTIES OF A CHEMICAL INTERMEDIATE, B-NAPHTHYLANE USED IN PREPARATION OF B-1 DYE, NO COMMERCIAL SOURCE WILL PROVIDE THE DYE FOR USE AS A LIQUID AGENT DETECTOR.

5 81 1348

SUPER TROPICAL BLEACH

THERE IS A MAJOR SHORTFALL BETWEEN THE FY78 REQUIREMENTS FOR THIS ITEM AND THE QUANTITY OF IMPORTED CHLORINATED LIME KNOWN TO BE AVAILABLE.

5 81 1354

SLUDGE VOLUME REDUCTION AND DISPOSAL PROCESS

MCA POLLUTION ABATEMENT FACILITIES UNDER CONSTRUCTION AT PINE BLUFF ARSENAL DISCHARGE INTO A SETTLING LAGOON HAVING A FIVE YEAR CAPACITY BUT NO CLEAN OUT OR SLUDGE DISPOSAL EQUIPMENT. TO EXTEND LAGOON LIFE-SPAN, SLUDGE VOLUME MUST BE MINIMIZED.

5 81 1500

EVAL INDUST CAPABILITY F/LOAD COMMERCIAL EXPL-HIGH USE MUNIT

DURING MOBILIZATION THERE CAN BE A SHORT FALL IN AVAILABILITY OF MILITARY EXPLOSIVES. INDUSTRY HAS MANY SAFE EXPLOSIVE FORMULATIONS. THEIR APPLICABILITY TO MILITARY USAGE IS UNKNOWN. INDUSTRIAL CAPABILITY FOR MILITARY FILLING THESE EXPL IS UNKNOWN.



PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

5 81 3961

IMPRVD VIBR ACCEPTANCE TESTING F/M732, XM587/724 FUZES ? S?A

CURRENT METHODS ARE COSTLY AND TIME CONSUMING, RARELY EXPOSE THE TEST ITEM TO TRUE SERVICE ENVIRONMENTS, AND REQUIRE THREE TESTS TO ACCOUNT FOR ALL TEST AXES.

5 81 4000

AUTOMATED M55 DETONATOR PRODUCTION EQUIPMENT

LAP OF DETONATORS IS LABOR INTENSIVE. PERSONNEL EXPOSURE IS EXTENSIVE. MOB RATES ARE EXTREMELY HIGH.

5 81 4027

COMBINED SOLVENT RECOVERY/DRYING OF S-B PROPELLANT

PRESENTLY SOLVENT RECOVERY, WATER DRY, AND AIR DRY OPERATIONS ARE ACCOMPLISHED IN 3 SEPARATE TANKS, ONE TANK IS USED FOR EACH OPERATION. THESE OPERATIONS ARE BOTH LABOR AND ENERGY INTENSIVE AND GENERALLY INEFFICIENT.

5 81 4059

CONTROL OF NQ CRYSTALLIZATION

NITROGUANIDINE PRODUCED ON THE NEW LINE AT SUNFLOWER AAP IS EXPECTED TO HAVE A DIFFERENT PARTICLE SIZE DISTRIBUTION THAN THAT OF PREVIOUS SUPPLIER. THIS MAY CREATE PROCESSING PROBLEMS IN THE NEW CONTINUOUS AUTOMATED MULTI-BASE LINE (CAMBL) PROCESS.

5 81 4061

NITROGUANIDINE PROCESS OPTIMIZATION

A NITROGUANIDINE FACILITY IS UNDER CONSTRUCTION AT SAAP TO BE OPERATIONAL IN FY80. IT UTILIZES PROCESSES NOT PREVIOUSLY USED COMMERICALLY AND IT CONTAINS MANY RECIRCULATION AND SUPPORT LOOPS, THE OPERATION OF WHICH ARE STRONGLY INTERDEPENDENT.

5 81 4062

AUTO MANUFACTURE SYS F/MORTAR INCREMENT CONTAINERS

THE MANUFACTURE AND ASSEMBLY OF THE 60/81MM PROP CHARGE INCREMENT CONTAINER IS LABOR INTENSIVE AND DOES NOT MEET PRODUCTION REQUIREMENTS.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

5 81 4145

CONTROL OF DRYING IN AUTOMATED SB AND BALL PROPELLANTS MFG

OFF-LINE ANALYSIS FOR MOISTURE AND VOLATILES MAKES IT DIFFICULT TO CONTROL A CONTINUOUS DRYING OPERATION SINCE THE TIME REQUIRED FOR ANALYSIS IS LONG COMPARED TO THE RESIDENCE TIME FOR THE PROPELLANT IN A CONTINUOUS DRYER.

5 81 4150

NEW MANUFACTURING PROCESSES FOR SMALL CALIBER PENETRATORS

MANUFACTURE OF PENETRATORS INTO BALL BULLETS IS VERY COSTLY.

5 81 4200

TNT CRYSTALLIZER FOR LARGE CALIBER MUNITIONS

TNT MELT LOADING REQUIRES AN OPTIMUM RATIO OF MOLTEN AND SOLID TNT IN THE EXPLOSIVE MIX AT THE TIME OF POUR. THE RATIO IS OBTAINED BY THE ADDITION OF FLAKE TNT TO A QUANTITY OF MOLTEN TNT BASED ON OPERATOR JUDGEMENT.

5 81 4226

ON-LINE MONITORS FOR WATER POLLUTANTS

IDENTIFICATION AND MONITORING OF INDIVIDUAL MILITARY UNIQUE EFFLUENT POLLUTANTS REQUIRED BY WATER POLLUTION CONTROL ACT.

5 81 4231

IN-PLANT REUSE OF POLLUTION ABATED WATERS

MORE STRINGENT STANDARDS FOR MILITARY UNIQUE POLLUTANTS. 1985 GOAL OF ZERO DISCHARGE. EXPENSE OF TREATING POLLUTION. CONTINUE THIS REUSE OF TREATED WATER IN OTHER PROCESSES.

5 81 4266

MANUF, INSPECT + TEST EQUIP F/MAGNETIC POWER SUPPLY

PIEZOELECTRIC POWER SUPPLIES USED IN HEAT AMMO HAVE UNDESIRABLE VOLTAGE GENERATION IMPRESSED ON THE ELECTRICAL CIRCUITS OF THE ROUND DUE TO SHOCK VIBRATIONS RESULTING DURING FLIGHT WHICH MAY CAUSE PREMATURES.

5 81 4281

CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS

PETROLEUM MAY NOT BE AVAILABLE IN FUTUR TO MEET PRODUCTION REQUIREMENTS.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

5 81 4298

EVALUATION OF DIMETHYLNITROSAMINE DISPOSAL ON HAAP B-LINE

EFFLUENT FROM AMONIA RECOVERY COLUMN CONTAINS SIGNIFICANT AMOUNTS OF DMN. DMN IS ONE OF THE EPA CONSENT DECREE COMPOUNDS FOR WHICH WATER QUALITY CRITERIA MUST BE PROVIDED. EPA INSISTS ON LEVELS BELOW 0.3 PPB.

5 81 4309

AMMUNITION FOR THE 120MM TANK MAIN ARMAMENT

MASS PRODUCTION IN THE US OF W. GERMAN 120MM TANK AMMUNITION POSES PROBLEMS IN FOUR FUNCTIONAL AREAS - METAL PARTS, PROPELLANT, FUZE, AND LAP.

5 81 4311

DEVELOP AUTOMATED PRODUCTION EQUIPMENT FOR M692

PRESENT PRODUCTION FACILITY TO LAP THE XM692 MINE DISPENSING SYSTEM IS LIMITED TO A MANUAL/MANUAL ASSIST OPERATION WITH ATTENDANT PRODUCTION UNIT COSTS AND HIGH PERSONNEL EXPOSURE.

5 81 4364

ON-LINE BIO SENSORS TO MONITOR MIXED WASTE STREAMS

PL92-500 REQUIRES THAT WASTE DISCHARGES BE MONITORED TO ASSURE THAT AQUATIC LIFE ARE PROTECTED FROM TOXIC/HAZARDOUS SUBSTANCES. IN ADDITION, BIOLOGICAL MONITORING WILL SOON BE REQUIRED IN SOME NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM PERMITS.

5 81 4417

PROCESS TECHNOLOGY FOR BLENDING RP SMOKE COMPOSITIONS

SMOKE PRODUCED FROM HC HAS LED TO SOME INJURIES AND IS SUSPECTED OF BEING A CARCINOGEN. R+D WORK IS BEING DONE TO DEVELOP A RED PHOSPHORUS MIX TO REPLACE HC. HOWEVER NO LARGE SCALE RP PREPARATION FACILITIES CURRENTLY EXIST.

5 81 4449

PROCESS IMPROVEMENT FOR COMPOSITION C-4

THE EXISTING FACILITIES WHICH ARE COMMON TO THE MANUFACTURE OF COMP B AND THE OTHER RDX COMPOSITION WOULD LIMIT THE AVAILABILITY OF THESE ITEMS BELOW THEIR MOB REQUIREMENTS.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

5 81 4503

NEW PROCESS FOR SAWS TRACER AMMUNITION

THERE IS NO U.S. CAPABILITY FOR MANUFACTURING THE PROPOSED  
NATO 5.56MM TRACER BULLET IN THE QUANTITIES REQUIRED FOR  
THE SAW SYSTEM.

5 81 4506

5.56 MM CARTRIDGE LINKING SYSTEM

THERE ARE CURRENTLY NO LINKING MACHINES AVAILABLE FOR  
LINKING PRODUCTION QUANTITIES OF 5.56MM AMMUNITION. THE  
MANUAL AND SEMIMANUAL METHODS AVAILABLE ARE SLOW AND  
COSTLY.

5 81 6716

DEV COMP-AID MODEL OF FORMING OPERATIONS FOR ARTILLERY MPTS

TRIAL AND ERROR METHODS AND THE ABSENCE OF PROVEN AUTOMATED  
DESIGN TECHNIQUES FOR TOOLING CAUSE UNEXPECTED FAILURES IN  
FORMING OPERATIONS AND DELAYS IN STARTUP OF AMMUNITION  
PRODUCTION LINES.

ARRADCOM-ARRCOM (WPNS)

6 81 7724

GROUP TECHNOLOGY OF WEAPON SYSTEMS (CAM)

THERE IS A NEED TO REDUCE AND CONTROL THE PROLIFERATION OF  
PARTS AND DESIGNS FOR ITEMS MANUFACTURED AT WATERVLIET  
ARSENAL.

6 81 7807

PROGRAMMED OPTICAL SURFACING EQUIPMENT/METHODOLOGY

CURRENT TECHNIQUES FOR PITCH BUTTUNING AND BLOCKING  
PRECISION LENSES USE OLDER CONVENTIONAL EQUIP. ACCURACY  
DEPENDS ON THE SKILL AND EXPERIENCE OF WELL TRAINED MASTER  
OPTICIANS WHO ARE BECOMING SCARCE.

6 81 7916

APPLICATION OF LOW COST MANDREL MATERIALS

TO PRODUCE A SATISFACTORY SUBSTITUTE FOR TUNGSTEN CARBIDE  
MANDREL TO ELIMINATE SOLE SOURCE PROCUREMENT. THE PRICE OF  
THE MANDRELS HAS INCREASED FIFTY PERCENT OVER THE LAST 5  
YEARS.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

6 81 7925

BORE EVACUATOR BORING

BOTH ENDS OF THE BORE EVACUATOR HAVE SIMILAR DIAMETER BORES AND REQUIRE ALMOST EQUAL MACHINING WITH HIGH COST OF MACHINING TIME. REDUCTION OF MACHINING TIME IS IMPERATIVE. ORIENTATION OF THE BORES IS IN RELATION TO EACH OTHER.

6 81 7927

GENERATION OF BASE MACHINING SURFACES

TO OBTAIN A DISTR OF STOCK ON A ROUGH CAST COMPONENT, IT IS CURRENTLY NECESSARY TO 'DRAW' THE FINISHED COMPONENT ON THE MATERIAL USING HT GAGE AND LAYOUT TEMPLATES. THIS IS DONE ON A TABLE FROM WHICH THE PART MOVES TO A MACHINE FOR SIMILAR SET-UP.

6 81 7928

ROBOTIZED BENCHING OPERATIONS (CAM)

BENCHING OPERATIONS ON BREECHBLOCKS AND RINGS ARE UNSAFE AND TIME CONSUMING.

6 81 7940

SYNERGISTIC PLATINGS WITH INFUSED LUBRICANTS

LOW FRICTION, WEAR RESISTANT SURFACES ARE NEEDED FOR COMPONENTS IN SLIDING CONTACT.

6 81 7948

ESTABLISH CUTTING FLUID CONTROL SYSTEM

THE LACK OF A CONTROLLED PROGRAM FOR THE USE OF CUTTING FLUIDS RESULTS IN HIGH MACHINING COSTS AND STOCKING OF MANY FLUIDS.

6 81 7966

MANUFACTURE OF TRITIUM POWERED RADIO-LUMINOUS LAMPS

CURRENT METHODS OF CONTROLLING MOISTURE CONTENT, SEALING AND ALUMINIZING TRITIUM LAMPS ARE BELIEVED RESPONSIBLE FOR THE PRESENT LACK OF DEPENDABILITY.

6 81 7985

SMALL ARMS WEAPONS NEW PROCESS PRODUCTION TECHNOLOGY

GUN BARREL MFG PROCEDURES REFLECT ANTIQUATED TECHNOLOGY AND RELY ON MASS REMOVAL OF MATERIAL BY CONVENTIONAL MACHINING METHODS. CURRENT EQUIP REPRESENTS 1940-50 TECHNOLOGY. NEW MATERIALS COMPOUND THE PROBLEM.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

6 81 7990

IMPROVED FABRICATION AND REPAIR OF ANODES

THE PURCHASE OF NEW OR THE REPAIR OF ANODES IS EXPENSIVE AND TIME CONSUMING. CURRENTLY USED MELTED ON LEAD CLADDING IS INFERIOR TO ELECTRODEPOSITED LEAD BECAUSE OF VARIATIONS OF THICKNESS AND OXIDE INCLUSIONS.

6 81 8001

RAPID FLOW PLATING OF SMALL CALIBER GUN TUBES

CHROMIUM PLATING IS A RELATIVELY SLOW PROCESS.

6 81 8035

COATING TUBE SUPPORT SLEEVES WITH BEARING MATERIALS

METALLIZED COATINGS ON SUPPORT SLEEVES FOR GUN MOUNTS ARE BRITTLE AND LACK BOND STRENGTH.

6 81 8054

IMPROVED MFR OF OPTICAL SCRATCH AND DIG STANDARDS

PRESENT OPTICAL SCRATCH AND DIG STANDARDS ARE DIFFICULT AND EXPENSIVE TO MANUFACTURE, CALIBRATE, AND MAINTAIN

6 81 8080

HIGH SPEED FABRICATION OF ASPHERIC OPTICAL SURFACES

THE BULK OF THE COST OF OPTICS FOR FIRE CONTROL SYSTEMS LIES IN THE FIGURING AND POLISHING STAGE.

6 81 8105

ESTABLISH ROUGH THREAD BLANKS, 8 ? M201 BUSHING

A SINGLE POINT TOOL IS NOW USED TO PRODUCE THE ROUGH FORMED BLANK FOR STEP THREADS ON STEP BLOCKS. CURRENT TIME VALUE IS 13.9 HOURS.

6 81 8106

LARGE CALIBER POWDER CHAMBER BORING

POWDER CHAMBERS PRODUCTION ON LARGE BORE CANNON, 8 IN M201, CURRENTLY REQUIRES 14 HOURS TO ACCOMPLISH BOTH ROUGH AND FINISH OPERATIONS.

6 81 8107

CREEP FEED CRUSH FORM GRINDING

THE BRACKET SLOT ON THE 105MM M68 BREECH RING IS A HIGH COST OPERATION. IT IS CURRENTLY MILLED WITH FORM TOOLS IN TWO OPERATIONS-ROUGH AND FINISH.



PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

6 81 8113

ESTABLISHMENT OF ION PLATING PROCESS FOR ARMAMENT PARTS

DDO IS REPLACING TOXIC CADMIUM WHEREVER POSSIBLE. CURRENTLY, CADMIUM PLATING IS SPECIFIED FOR APPROXIMATELY 3000 ARMAMENT COMPONENTS. EQUALLY IMPORTANT IS THE ELIMINATION OF THE HYDROGEN EMBRITTLEMENT OF STEEL CAUSED BY ALL ELECTROPLATING PROCESSES.

6 81 8120

ADAPTIVE CONTROL TECHNOLOGY (CAM)

INEFFICIENT USE OF N/C MACHINE TOOLS DUE TO CONSERVATIVE PROGRAMMING IS UNECONOMICAL. ALSO THE INABILITY TO MONITOR A MULTIPLICITY OF TOOL FORMS CHARACTERISTIC OF N/C MACHINE CAPABILITY IS A LIMITER.

6 81 8135

IN-PROCESS CONTROL OF MACHINING

DURING MFG. OF RECOIL CONTROL ORIFICES, ERRORS ARE INTRODUCED WHICH REQUIRE REWORK. CORRECTIVE ACTIONS INVOLVE COSTLY DETAILED INSPECTION AND REANALYSIS WITH COMPUTERIZED DESIGN PROGRAMS TO DEFINE POSSIBLE REWORK ALTERNATIVES.

6 81 8136

IMPROVED IMPULSE PROGRAMMERS FOR HYDRAULIC SIMULATORS

UNDESIRABLE SHOCK AND VIBRATION IN TESTS OF CERTAIN RECOIL MECHANISMS LIMIT THE EXTENT OF TESTING THAT CAN BE ACCOMMODATED ON THE HYDRAULIC ARTILLERY TEST SIMULATOR.

6 81 8151

PORTABLE ENGRAVING SYSTEM

CURRENTLY THE COMPONENT IDENTIFICATION LEGEND IS STAMPED BY HAMMER AND INDIVIDUAL ALPHA-NUMERIC STAMPS. THIS IS A TIME CONSUMING PROCESS WITH NO DEPTH CONTROL AND CAN PRESENT A SAFETY HAZARD TO PERSONNEL.

6 81 8152

IMPROVED ANODE STRAIGHTNESS FOR CHROMIUM PLATING

ANODE STRAIGHTNESS AND RIGIDITY ARE IMPORTANT FOR MAXIMUM AND UNIFORM RADIAL DISTRIBUTION OF CURRENT. A SOLID COPPER ROD IS PRESENTLY USED. ALTHOUGH ANODES ARE MADE AND PRESERVED AS CAREFULLY AS POSSIBLE STRAIGHTNESS IS A RECURRING PROBLEM.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

6 81 8153

INCREASING GUN TUBE HEAT TREATMENT CAPACITY

OIL-FIRED SELAS CONTINUOUS HEAT TREATING CANNOT MEET THE PRODUCTION CAPACITY OF THE ROTARY FORGE. THE OUTPUT OF THE HEAT TREAT LINE MUST BE INCREASED THREE-FOLD TO MEET MOBILIZATION REQUIREMENTS.

6 81 8154

COMPUTER INTEGRATION MFG (CIM), DDNC

NUMERICAL CONTROL MACHINE TOOLS OFFER MANY ADVANTAGES OVER CONVENTIONAL MACHINE TOOLS BUT HAVE CERTAIN DISADVANTAGES. ONE PROBLEM AREA IS GETTING MACHINE INSTRUCTIONS TO THE MACHINE TOOL AND COLLECTING MANAGEMENT INFORMATION.

6 81 8165

STANDARDS FOR DIAMOND TURNED OPTICAL PARTS

EXISTING SURFACE FINISH STANDARDS AND TESTING EQUIPMENT AND TECHNIQUES DO NOT COVER THE RANGE OF DIAMOND TURNED OPTICAL SURFACES FOR A PRODUCTION ENVIRONMENT (1/2 TO 1 MICROINCH).

6 81 8209

PILOT PRODUCTION OF GRADIENT INDEX OPTICS

GRADIENT OPTICS, WHERE IN THE INDEX OF THE GLASS IS SEQUENTIALLY VARIED TO OBTAIN DESIGNED OPTICAL CHARACTERISTICS IS FAR MORE DESIRABLE THAN CURRENT USED, I.E., FORMING A CURVE ON THE GLASS SURFACE.

6 81 8246

IMPROVED GAS CHECK SEAT FINISHING

MACHINING OF GAS CHECK SEATS IS A PRECISION PROCESS INVOLVING GRINDING AND LAPPING OF A CRITICAL AREA OF THE CANNON WHICH RESULTS IN 30 TO 50 PERCENT REWORK TO PASS CONTACT GAGE REQUIREMENTS.

6 81 8341

HOLLOW CYLINDER CUT OFF MACHINE

ESTAB. CYL LENGTH IS DONE 1 OF 2 WAYS. PARTED OFF IN A LATHE AND FACED TO LENGTH OR SAWED OFF AND THEN SET UP IN A LATHE FOR FACING TO FINAL LENGTH DIMENSIONS. IN EITHER CASE, THE OPERATION REQUIRES DOUBLE HANDLING OR SLOW OPERATING PROCEDURES.

PROJECTS ADDED IN 1ST HALF, CY81  
(CONTINUED)

TSARCOM

7 81 8190

MMT IMPROVED BLISK-IMPELLER CUTTER LIFE

MILLING CUTTER COST ASSOCIATED WITH THE BLISK AND IMPELLER FOR THE T-700 ENGINE IS AVERAGING \$2540 PER ENGINE AND IS CONSIDERED EXCESSIVELY HIGH.

7 81 8192

TURBINE ENGINE PRODUCTIVITY IMPROVEMENT

THE STRATFORD ARMY ENGINE PLANT (SAEP) IS IN NEED OF MODERNIZATION. BOTH THE PLANT AND NEARLY 50 PERCENT OF THE EQUIPMENT IS OVER 25 YEARS OLD. A COMBINATION OF AGING MFG FACILITIES, METHODS, PROCESSES, ETC., HAVE RESULTED IN EXCESSIVE MFG COSTS.

TOTAL PROJECTS ADDED IN 1ST HALF, CY81 103

MMT PROGRAM

PROJECTS COMPLETED 1st HALF, CY81



PROJECTS COMPLETED IN 1ST HALF, CY81

ERADCOM

2 77 9751

MFG METHODS FOR FABRICATIION OF YAG LASER RODS

LITTON COMPLETED DEVELOPMENT OF BATCH PROCESSING EQUIPMENT TO GRIND AND POLISH YAG LASER RODS FOR GVS-5 RANGEFINDERS. A 16-ROD POLISHING BLOCK WAS DESIGNED WHICH INCREASED THE PRODUCTION RATE FROM 5 TO 150 RODS PER MONTH. EDC DEMO HELD 22 JULY 80.

2 77 9792

PDN OF FUNNELLED MCPS WITH HIGH SECONDARY EMITTING COATING

GALILEO COMPLETED A RUN OF MICROCHANNEL PLATES USED IN IMAGING TUBES AND SUBMITTED A FINAL REPORT. 10 MICRON CHANNEL SPACING IMPROVED RESOLUTION BY 50% AND E-BEAM MGD DEPOSITION GAVE LOW-NOISE FIGURE. SALVAGE OF DEFECTIVE MGDS WAS SUCCESSFUL.

AMMRC

M 78 6350

MATERIALS TESTING TECHNOLOGY (MTT)

SEE SUBTASKS BELOW FOR PROJECT STATUS.

M 78 6350 2200

SIZING AND COUNTING CONTAMINANTS IN RECOIL HYDRAULIC

THE AUTOMATED MECHANICAL STAGE HAS BEEN REC'D + INSTALLED. THE FOLLOWING ITEMS WERE REPLACED OR REPAIRED-DISC DRIVE CABLE, COMPUTER CIRCUIT BOARDS, PWR SUPPLY + SCANNING ELECTRON MICROSCOPE + THE COMPUTER. THE IMAGE ANALYSIS SYS HAS BEEN CAL.

M 78 6350 2205

HOLOGRAPHIC INSPECTION OF ROTARY FORGED PREFORMS

SEVEN LSI11 WIRE WRAP CARDS WERE COMPLETED AND TESTED. THESE CARDS ARE THE INTERFACE BETWEEN THE SEARLE ULTRASONIC UNIT + MULTIPORTED DYNAMIC RAM. THE GAP RINGDOWN HAS EMERGED AS ONE OF THE PRINCIPLE PROBLEMS.

M 78 6350 2206

OPTICAL DETERMINATION OF DIMENSIONAL GAPS ON TANK PROJECTILE

THE FACILITY EXPLOSION PROOF MODIFICATIONS HAVE BEEN COMPLETED. THE CONTRACTOR SOFTWARE MOD TEST HAVE BEEN DELAYED BY THE FACILITIES MOD WORK.

PROJECTS COMPLETED IN 1ST HALF, CY81  
(CONTINUED)

M 78 6350 2224

AUTOMATED ANTENNA PATTERN MEASUREMENT

CURRENTLY THE PATRIOT ANTENNA REDESIGN HAS BEEN COMPLETED AND DETERMINATION OF THE ACCEPTANCE TESTING NEEDS IS NEARLY COMPLETED. EFFORTS TO OBTAIN MTT FUNDING FOR RESUMPTION + COMPLETION OF THIS HAVE BEEN INITIATED BY HQ ERADCOM.

M 78 6350 2225

3-D SHOCK/VIBRATION TEST FOR MISSILE ARTLY FUZE MATL

DURING THIS PERIOD THE CONTRACTOR STOPPED WORK DUE TO LACK OF FUNDS. TO DATE, THE ENGINEERING DESIGN ON THE 3D-YTS HAS BEEN COMPLETED.

M 78 6350 2226

AIR FLOW TEST EQUIPMENT

DURING THE PAST SIX MONTHS A PERMANENT FRAMEWORK TO SUPPORT THE SYSTEM PIPING HAS BEEN COMPLETED. A NEW SETTLING TANK IS BEING BUILT TO REPLACE THE BURROWED TANK.

M 78 6350 2227

SET-BACK DRAG TESTER FOR S+A DEVICES

MINOR MECHANICAL CHANGES MADE IN SETBACK DRAG TESTER #2 HAVE BEEN INCORPORATED IN TESTER #1. BOTH TESTER ARE IDENTICAL IN CONFIGURATION AND HAVE SIMILAR PERFORMANCE CHARACTERISTICS. THE ROUGH DRAFT OF THE TECHNICAL REPORT HAS BEEN COMPLETED.

M 78 6350 2235

ACOUSTIC EMISSION WELD INSPECTION

THE CONTRACTOR HAS COMPLETED FLAW CHARACTERISTICS REFINEMENT, PREPARED SOFTWARE CRITERIA, AND INTEGRATED SAME INTO EQUIPMENT. THE AEM WAS APPLIED TO THE M1 PRODUCTION LINE FOR ONE MONTH. THE AE DATA WILL BE COMPARED TO X-RAY DATA FOR EVALUATION.

M 78 6350 2241

DIELECTRIC TECH FOR NDE NON-CONDUCTING CERAMIC MATL

THE CONTRACTOR COMPLETED THE WORK TO DEMONSTRATE APPLICABILITY OF IMPROVED EDDY CURRENT FIELD PROBES + INSTRUMENTATION FOR DEFECT DETECTION IN HOT PRESSED SILICON NITRIDE + SILICON CARBIDE MATERIALS.



PROJECTS COMPLETED IN 1ST HALF, CY81  
(CONTINUED)

M 78 6350 2245

NONDESTRUCTIVE EVALUATION OF CERAMIC MATERIALS

CONTRACTS HAVE BEEN AWARDED FOR STATE OF THE ART CONVENTIONAL NDE EQUIP THAT INCLUDE HI FREQ TRANSDUCERS, PULSER RECEIVERS, RESONANCE FREQ, MODULUS MEAS ELECTRONICS, IMMERSION INSP SYS ETC. THE REVIEW OF FLAWS, TYPE AND LOCATIONS, IS CONTINUING.

M 78 6350 2432

INSPECTION LEAK TEST APPARATUS

A CONTRACT WAS AWARDED AS A RESULT ON IN-HOUSE STUDY TO RE-EVALUATE 3 GOV'T CHEMICAL DETECTOR SYS AS A RESULT A COMMERCIAL SYS WAS PURCHASED. THIS SYS WAS TESTED AND PROVEN TO MEET GOV'T SPECS SATISFACTORILY. A FINAL RPT WILL BE COMPLETED BY NOV 81.

M 78 6350 2449

GENERAL PURPOSE RESIDUAL STRESS ANALYZER

THIS PROJECT HAS BEEN COMPLETED. THE FINAL TECHNICAL REPORT HAS BEEN WRITTEN + SUBMITTED FOR TYPING + REPRODUCTION.

AVRADCOM

1 79 7036

ISOTHERMAL ROLL-FORGING OF COMPRESSOR BLADES

WORKSCOPE FOR CONTINUING PHASES OF THIS PROGRAM WAS ESTABLISHED AND PLACED UNDER CONTRACT DAAG-46-80-C-0101.

MICOM

R 80 1021

COMPUTERIZED PROD PROCESS PLAN F/MACHINED CYLINDRICAL PARTS

THIS PROJECT IS COMPLETE. WORK IS CONTINUING UNDER MMT PROJECT 3 81 1021.

R 79 3116

ROSETTE AIR DEFENSE SEEKER OPTICS AND DETECTORS

GENERAL DYNAMICS IMPROVED MANUFACTURING METHODS FOR STINGER/POST ROSETTE SEEKER HEADS AFTER EVALUATING ASSEMBLY AND TEST METHODS FOR GYRO-OPTIC AND DETECTOR/PREAMPLIFIER UNITS. COST SAVINGS POTENTIAL FOR PRODUCTION OF STINGER/POST ALONE IS \$4212K.

PROJECTS COMPLETED IN 1ST HALF, CY81  
(CONTINUED)

R 78 3121

APPLICATION AND NDT OF LINE PIPE FOR MOTOR COMPONENTS

ALL WORK WAS COMPLETED AND A FINAL TECHNICAL REPORT  
(RK-CR-81-4) DISTRIBUTED.

R 77 3183

IMPROVED PROCESSES FOR INERTIAL GRADE Q-FLEX ACCELEROMETER

SUNSTRAND IMPROVED ACCELEROMETER BIAS STABILITY BY  
THICKENING GOLD METALLIZATION TO REDUCE FILM STRESS ON  
QUARTZ FLEXURE. NEW WELDING METHODS FOR ATTACHING  
COMPONENTS IN SENSOR STACK + NEW BOBBIN MATERIALS WERE  
EVALUATED. PHASE I WORK IS COMPLETED.

R 78 3183

IMPROVED PROCESSES FOR INERTIAL GRADE Q-FLEX ACCELEROMETER

SUNSTRAND ELIMINATED SCALE FACTOR INSTABILITIES BY USING  
IMPROVED SEALING + LOW MOISTURE ABSORPTION ANODIZED  
MATERIALS. MAGNETIC CIRCUIT PATHS + BOBBIN ATTACHMENT WERE  
OPTIMIZED. PHASE II WORK IS COMPLETED. ACCELEROMETER IS  
USED ON ALL SIG-D FLIGHTS.

R 79 3219

AUTOMATIC POLYMER ATTACHMENT PRODUCTION METHODS

MICROELECTRONICS COMPLETED A COMBINED POLYMER APPLICATION,  
AND CHIP + PLACE SYSTEM STUDY FOR HYBRIDS. POLYMER SCREEN  
PRINTING, CHIP VACUUM COLLET PLACEMENT, SUBSTRATE MAGAZINE  
HANDLING + MICROPROCESSOR CONTROL DIE LOCATION RECOGNITION  
WERE ADVISED.

3 76 3227

LOW COST PROD METH FOR HAND HYBRID CHIP W/TAPE CAR LEAD FR

SEE THE FOLLOWING SUBTASKS FOR WORK STATUS. ALL WORK HAS  
BEEN SUCCESSFULLY COMPLETED.

3 76 3227 A

HONEYWELL WORK

HONEYWILL COMPLETED WORK ON THE BASIC CONTRACT AND THE  
FINAL TECHNICAL REPORT HAS BEEN ACCEPTED. IT DEFINED  
PROCESS STEPS FOR BUMPING WAFERS, PRODUCING THE TAPE, AND  
BONDING CHIPS TO TAPE AND TAPE TO PACKAGES.

PROJECTS COMPLETED IN 1ST HALF, CY81  
(CONTINUED)

3 76 3227 B  
DETEX SYSTEMS WORK

DETEX SYSTEMS COMPLETED WORK DURING AN EARLIER PERIOD. THEY DEVELOPED A DIAGNOSTIC PRODUCTION TEST SET. IT APPLIED COMPUTER AUTOMATED TESTING EQUIPMENT TO ISOLATE FAULTS IN ELECTRO-MECHANICAL SUBSYSTEMS.

3 76 3227 C  
HONEYWELL MODIFICATION

HONEYWELL TERMINATED WORK ON THIS CONTRACT BECAUSE RCA STOPPED SUPPLYING WAFERS OF THE TYPE REQUIRED. A COST AND PERFORMANCE REPORT IS AVAILABLE. COST MODELS FOR 1K, 5K, AND 10K HYBRID CIRCUITS WERE DEVELOPED.

3 76 3227 D  
HONEYWELL OPTION

HONEYWELL EARLIER DELIVERED REPORTS DETAILING TAPE CARRIER SPECS, WAFER METALLIZATION, TAPE CARRIER PROCESSING, INNER AND OUTER LEAD BONDING, DIE TESTING, AND REWORK TECHNIQUES. INDUSTRY DEMO WAS HELD AT HONEYWELL AT ST. PETERSBURG IN FEBRUARY 1981.

R 79 3287  
PRODUCTION METHODS FOR LOW COST STRIP LAMINATE MOTOR CASES

FABRICATION OF 60 CHAPARRAL MOTOR CASES COMPLETED. COMPLETE DATA PACKAGE AND FINAL TECHNICAL REPORT COMPLETED AND DISTRIBUTED.

R 79 3410  
PRODUCTION METHOD FOR HEAT PIPES FOR HYBRID/LSI

HUGHES COMPLETED ALL WORK ON HEAT PIPE COOLED HYBRID/LSI CIRCUITS. COPPER CONDENSER SECTIONS WERE JOINED BY SPOT WELDING AND FILLED WITH HEXANE. A VACUUM SYSTEM WAS BUILT FOR EVACUATION, FILL AND SEAL. PILOT RUN OF 50 DEVICES WAS SUCCESSFUL.

ARRADCOM-ARRCOM (AMMO)

5 76 1311  
M229 REFIL KIT COMPONENT-CHEMICAL AGENT ALARM

PROJECT HAS BEEN COMPLETED. FINAL TECHNICAL REPORT ARSCL-TR-81024 HAS BEEN PUBLISHED.

PROJECTS COMPLETED IN 1ST HALF, CY81  
(CONTINUED)

5 78 4143

MFG OF CANISTERS AND COMP F/M259 + M264 ROCKETS

THE 500 WICKS RECEIVED FROM THE CONTRACTOR WERE LOADED INTO 50 CANISTERS. TESTS WERE PERFORMED AT HIGH AND LOW TEMPERATURES TO VERIFY THE ACCEPTABILITY OF THE NEW CONFIGURATION. FINAL REPORT WAS COMPLETED.

5 78 4153

INERTIA WELDER FOR THE M509 AND M483 PROJECTILES

A PILOT RUN OF 260 M483'S WAS COMPLETED WITH A REJECT RATE OF 26%. 120 OF THESE WERE BALLIST TESTED AT YPG. REASONS FOR HIGH REJECT RATES ARE BEING INVESTIGATED. THIS PROJECT IS A FAILURE.

5 78 4214

POLLUTION ENGINEERING FOR 1983-85 REQUIREMENTS

PROJECT IS NOW COMPLETED. IMPLEMENTATION CAN ONLY BE ACCOMPLISHED BY FUTURE MCA OR MODERNIZATION PROGRAMS. REFER TO THE FOUR INDIVIDUAL TASKS FOR DETAILS OR OTHER INFORMATION REGARDING PROJECT.

5 78 4214 P1

TECHNOLOGY REQUIREMENTS

DEVELOPED ANALYTICAL TECHNIQUES FOR PARTS-PER-BILLION MEASUREMENT OF TNT ASSOC NITROBODIES. EXPLOSIVE STDS MADE FOR REFERENCE GAS CHROMATOGRAPH SPECTRA CURVES. LIASON WITH OTHER GOVT AGENCIES MADE FOR PROGRAMS TO CONTROL ENVIRONMENTAL POLLUTION.

5 78 4214 P2

IN-PLANT REUSE OF POLLUTION ABATED WATERS

RECOMMENDATIONS FROM THE IN-PLANT REUSE STUDIES WILL BE INCORPORATED INTO RDX/HMX PRODUCTION OPERATIONS AT HAAP AND PROPELLANT MANUFACTURING OPERATIONS AT RAAP. RECS INCLUDE PROCESS MODS FOR RECYCLE/REUSE OF WATER + LESS LOADING WATER TRTMT FACILTS.

5 78 4214 P3

LOW COST SYSTEM TO ABATE NITROBODY POLLUTION

STUDIES SHOW THAT UV/OZONOLYSIS, WHITE OIL SOLVENT EXTRACTION AND ELECTROCHEMICAL OXIDATION ARE EFFECTIVE IN REMOVING NITROBODIES FROM 140-160 MG/L TO LESS THAN 1 MG/L FROM PINK WASTEWATER. SURFACTANTS WERE PROVED TO BE COST EFFECT FOR TRTG PINKWW.

PROJECTS COMPLETED IN 1ST HALF, CY81  
(CONTINUED)

5 78 4214 P4

NG-NITRATE ESTER REMOVAL BY ADSORPTION/RECYCLE

LAB TESTS TO REMOVE NITRATE ESTERS FROM NG PROCESS WASTEWATER COMPLETED: SELECTED RESINS LOADED WITH ESTERS TESTED AND PROVED COMPATIBLE FOR APPLICATION. HAZARDS ANALYSIS COMPLETED. PILOT PLANT COMPLETED FOR TESTING 2-BED DOWNFLOW USING XE-348 RESIN.

5 79 4285

TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING

COMPLETED PROJECT WITH FINAL REPORTS ON NITROCELLULOSE, COMPC-4, M483 PROJECTILE, M42 GRENADE TRAY AND LX14. CONDUCTED TESTS ON OCTO 75/25, HMX, RDX, M-6, AND NOL/PA 130.

5 79 4288

EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA

TESTING HAS BEEN COMPLETED FOR 155MM M795 HE AND 30MM XM789 HEDP PROJECTILES AND M42/M46 GRENADE RING PACKS. TESTING OF PROPELLANT CHARGES FOR THE 155MM AND 8 INCH WEAPON SYSTEMS WILL BE CONDUCTED UNDER FY80.

5 77 4301

ACCEPT PLAN-CONT PRODUCTION MULTI-BASE CANNON PROPELLANTS

ALL WORK HAS BEEN COMPLETED FOR THE PROJECT, HOWEVER, THE FINAL TECHNICAL REPORT HAS NOT BEEN PUBLISHED. ADCOM CONTRACTOR (INNOVA) PRIOR TO SHIPMENT TO MAAP. THIS WILL BE

5 76 6200

SMALL CALIBER AMMO PROCESS IMPROVEMENT PROGRAM

ARRADCOM COMMENT - FINAL PROJECT STATUS REPORT SUBMITTED 1 JUNE 81. NO SPECIFIC TASK IS ASSOCIATED WITH A SPECIFIC FY OF FUNDING. CRITERIA FOR PROJECT COMPLETION SEEMS TO BE DEPLETION OF FUNDS.

5 76 6557

CONTINUOUS PROPELLANT DRYING SALT COATING AND GLAZING.

A CONTINUOUSLY OPERATING FLUID BED DRYING PILOT PLANT HAS BEEN SUCCESSFULLY DEMONSTRATED FOR PROCESSING BALL PROPELLANT. A FINAL TECHNICAL REPORT DOCUMENTING THE ENTIRE EFFORT HAS BEEN DISTRIBUTED.

PROJECTS COMPLETED IN 1ST HALF, CY81  
(CONTINUED)

ARRADCOM-ARRCOM (WPNS)

6 78 7840

PORTABLE MULTI-DEGREE-OF-FREEDOM SIMULATOR

DUE TO COST ESCALATIONS OF APPROXIMATELY 400 PERCENT THE  
PROCUREMENT OF THE PORTABLE-SIX-DEGREE-OF-FREEDOM SIMULATOR  
WAS TERMINATED.

6 79 8104

IMPROVED BREACH BLOCK MANUFACTURING

A FEASIBILITY STUDY WAS CONDUCTED TO DETERMINE THE  
DESIRABILITY OF INSTALLING A FMS AT WATERVL1ET. A  
SOLICITATION FOR CONCEPT PROPOSALS WAS MADE. EVALUATIONS OF  
PROPOSALS, NEGOCIATIONS, AND ACTUAL PROCUREMENT WILL BE  
ACCOMPLISHED UNDER REARM.

TOTAL PROJECTS COMPLETED IN 1ST HALF, CY81      24

MMT PROGRAM

SUMMARY PROJECT STATUS REPORT

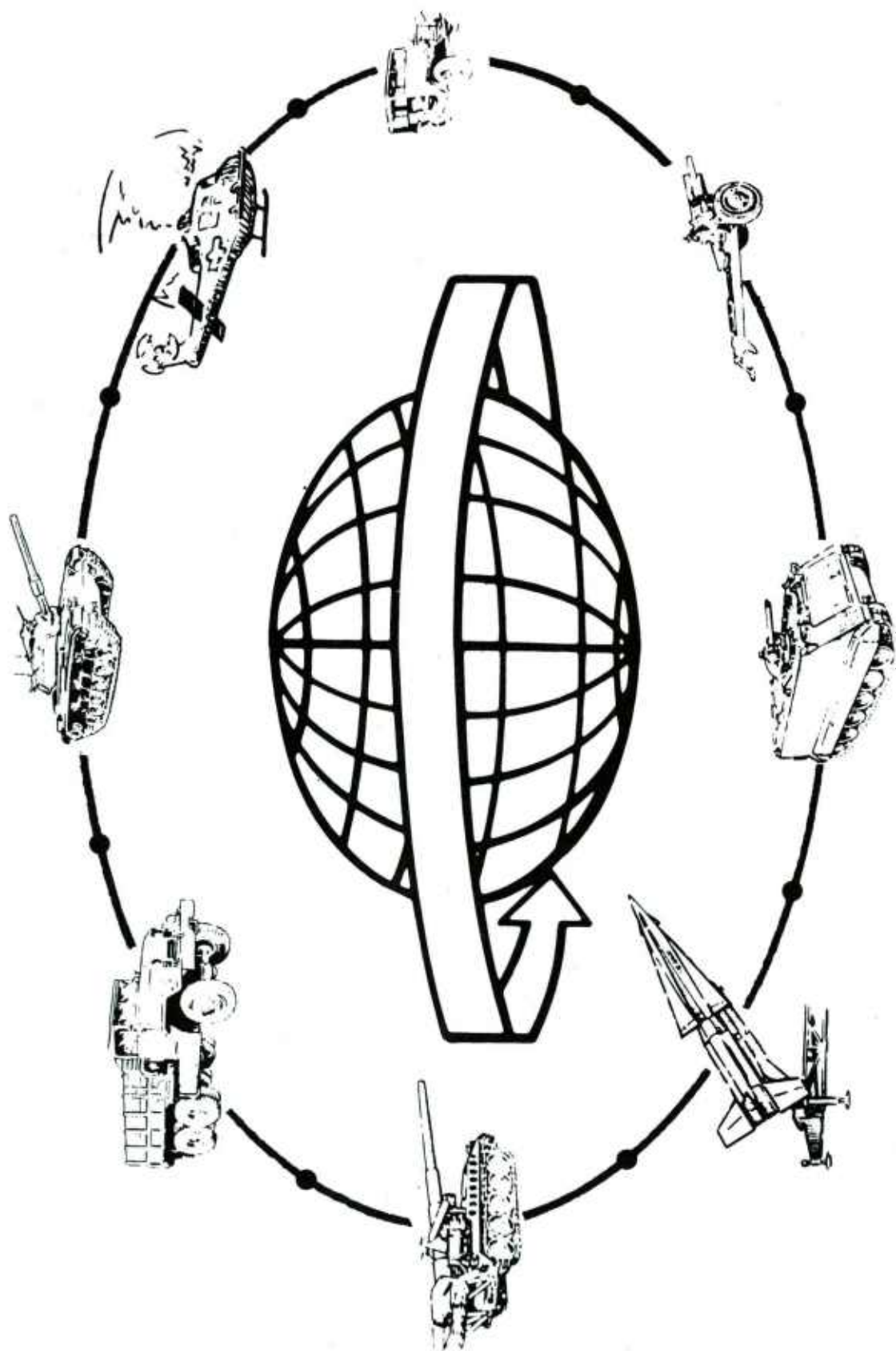




## MANUFACTURING METHODS AND TECHNOLOGY PROGRAM

### SUMMARY PROJECT STATUS REPORT

The Summary Project Status Report for each major Army subcommand (SUBMACOM) is preceded by the tabulated SUBMACOM MMT project funding status. The accuracy of funding amounts is based on the individual project status reports. The status as reported here is the IBEA condensation of information contained in the report or other comments as deemed useful. If a status report was not provided, a pertinent comment was made so that the project would be printed.



**US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND  
(DARCOM)**

**US ARMY DEPOT SYSTEM COMMAND  
(DESCOM)**

HQ-DARCOM AND DEPOT SYSTEMS COMMAND

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$ )	* * C O N T R A C T A L L O C A T E D (\$ )	* * F U N D I N G E X P E N D E D (\$ )	* * I N H O U S E R E M A I N I N G (\$ )	* * F U N D I N G E X P E N D E D (\$ )
76	1	383,000	383,000	252,600 ( 65%)	0	0 ( 0%)
77	1	305,000	208,000	183,000 ( 87%)	97,000	97,000 (100%)
78	1	870,000	743,000	437,000 ( 58%)	127,000	106,000 ( 83%)
79	1	495,000	326,800	58,000 ( 17%)	168,200	87,600 ( 52%)
80	2	552,000	469,700	31,400 ( 6%)	82,300	25,000 ( 30%)
81	3	1,077,000	224,600	0 ( 0%)	852,400	0 ( 0%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	9	3,682,000	2,355,100	962,000 ( 40%)	1,326,900	315,600 ( 23%)

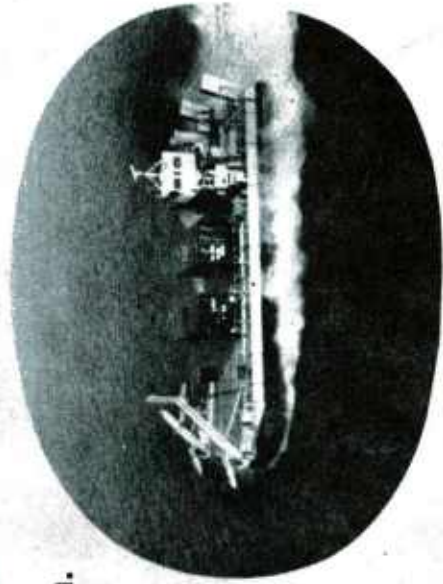
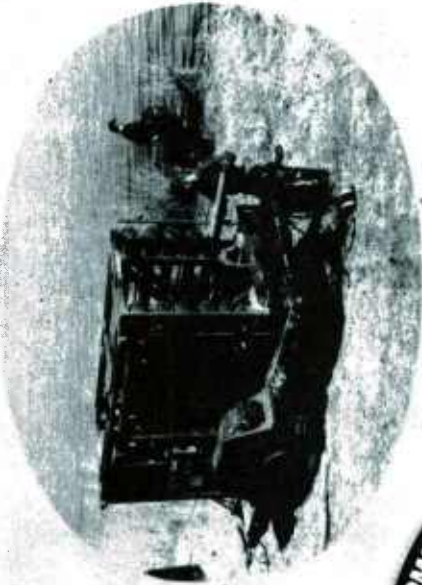
AUTHORIZED FUNDING CONTRACT ALLLOCATED 64% INHOUSE REMAINING 36%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
4 7T 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT CONTINUED WORK ON 706-100, DESIGN GUIDE FOR PRODUCEABILITY, 706-158 + 159, DYNAMICS OF BALLISTIC IMPACT, PART I + II AND 706-199, DEVELOPMENT GUIDE FOR REL PT. 5, CONTRACTING FOR REL.	383.0	383.0		JUN 78	MAR 81
4 77 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT SEVERAL HANDBOOKS WERE WORKED ON DURING THIS TIME PERIOD. THESE HANDBOOKS ARE IN VARIOUS STAGES OF COMPLETION FROM PRELIM. FINAL DRAFT + FINAL MANUSCRIPT (PDM/PFDM) AND FINAL DRAFT MANUSCRIPT (FOM), HOWEVER, NONE WERE COMPLETED.	305.0	208.0	97.0	SEP 79	SEP 81
D 78 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT DELAY IN START OF 706-430 DUE TO PROBLEM IN RELEASE OF SUB-CONTRACT. ALL OTHER HANDBOOKS SUMMARIZED IN 4 77 5052 STATUS REPORT ARE PROGRESSING TO THE FINAL STAGES.	870.0	743.0	106.0	NOV 79	JAN 82
D 79 5052	ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT ALL BUT TWO CHAPTERS OF THE FOM ON 706-100 WERE ACCEPTED AND CAREC BEING PREPARED. THE TWO UNACCEPTABLE CHAPTERS HAVE BEEN GIVEN TO PLASTEC (ARRADCOM) TO REWRITE AND THEY HAVE FINISHED PFDM ON BOTH CHAPTERS.	495.0	326.8	87.6	MAY 83	MAY 83
D 80 5052	ARMY ENGINEERING DESIGN HANDBOOKS FOR PRODUCTION SUPPORT WORK ON 706-480 PRELIMINARY DRAFT MANUSCRIPT CONTINUING. WORK ON 706-177 FINAL DRAFT MANUSCRIPT CONTINUING AT ARRADCOM. DELAYS EXPERIENCED IN GETTING TECHNICAL WORK GROUPS TO FINALIZE OUTLINE FOR 706-210 AND 706-XXX.	460.0	432.0	25.0	JAN 83	JAN 83
D 81 5052	ARMY ENGINEERING DESIGN HANDBOOKS WORK CONTINUING ON HANDBOOKS STARTED WITH PRIOR YEARS FUNDS. ARRADCOM FINALIZING RESTRUCTURING OF THE ARTILLERY AMMO SERIES (706-244 THRU -249).	531.0	224.6		JAN 84	JAN 84

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-3D1

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
G 80 0001	VOICE CONTROLLED PROGRAMMING OF COMPUTERS AN EVALUATION WAS COMPLETED OF COMMERCIALY AVAILABLE VOICE SYSTEMS, COMPONENT ASSEMBLIES + ALTERNATIVES FOR HARDWARE AND SOFTWARE CONFIGURATIONS. VOICE INPUT HARDWARE WAS PURCHASED AND METHOD OF INTERFACING VOICE SYSTEM TO GRAPHICS SYSTEM CHOSEN.	92.0	37.7		NOV 81	APR 82
G 81 4002	ROBOTIZED WELDING OF M13A2 SUSPENSION FUNDING HAS NOT BEEN RECEIVED.	421.0			SEP 81	SEP 81
G 81 4005	WATER JET MATERIAL REMOVAL SYSTEM THERE HAS BEEN NO WORK ACCOMPLISHED AS NO FUNDS HAVE BEEN RECEIVED.	125.0			MAR 82	MAR 82



Fort Belvoir, Va.



MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* * C O N T R A C T ( \$ )	* * F U N D I N G EXPENDED ( \$ )	* * I N H O U S E REMAINING ( \$ )	* * F U N D I N G EXPENDED ( \$ )
77	1	750,000	742,200	720,000 ( 97%)	7,800	0 ( 0%)
78	1	350,000	295,000	204,000 ( 69%)	55,000	55,000 (100%)
79	6	1,862,000	1,691,000	640,500 ( 37%)	171,000	105,200 ( 61%)
80	5	991,000	556,100	426,400 ( 76%)	434,900	59,800 ( 13%)
81	6	1,251,000	322,000	60,000 ( 18%)	929,000	50,000 ( 5%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	19	5,204,000	3,606,300	2,050,900 ( 56%)	1,597,700	270,000 ( 16%)
AUTHORIZED FUNDING		CONTRACT ALLOCATED 69%		INHOUSE REMAINING 30%		

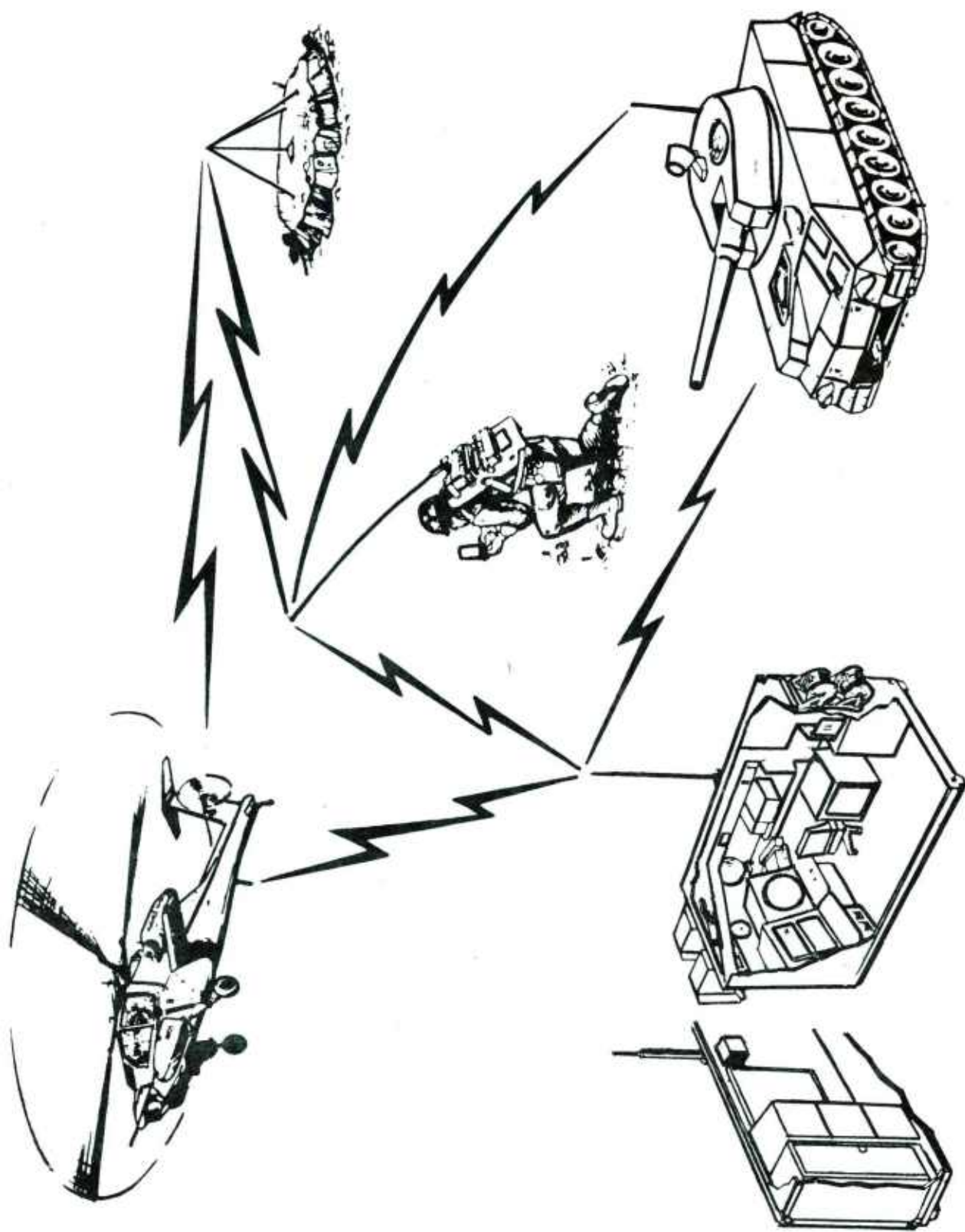


MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CY 81 RCS ORCMT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
E 79 3532	MOLTEN SALT LITHIUM-CHLORIDE BATTERY PROJECT DELAYED TO ALLOW FOR EXTENSIVE CELL AND MODULE TESTS, AT NO COST AS AN OFFSHOOT OF ODE/ANL ELECTRIC VEHICLE PROGRAM. GOAL IS AT LEAST 300 BATTERY CYCLES, TWICE PRESENT NUMBER. BATTERY DELIVERIES SCHEDULED FOR 2QFY83. 500 CYCLES PLANNED FOR.	295.0	280.0	3.0	AUG 80	SEP 83
E 79 3592	IMPROVED GRAPHITE REINFORCEMENT-PHASE 3 THE PILOT SCALE PLANT HAS BEEN FABRICATED. A PHASE 3 PROJECT IS BEING PREPARED.	307.0	272.5	20.9	SEP 80	NOV 81
E 78 3604	SOLID STATE POWER SWITCH DELTA ELECT CORP CONVERTED AN R+O 8REA080ARO POWER SWITCH INTO A HERMETICALLY SEALED PRODUCTION DESIGN. ENG SAMPLES FAILED TESTS. DEFECTS COULD NOT BE CORRECTED AND ALL WORK WAS STOPPED. PROJECT IS BEING TERMINATED. DEVICES ARE COMMERCIALY AVAIL.	350.0	295.0	55.0	JUN 80	JUL 81
E 79 3604	SOLID STATE POWER SWITCH DELTA ELECTRONICS CORP PHASE II EFFORT WAS TO DEVELOP A TECH DATA PACKAGE + TEST FIXTURING, + PERFORM DEVICE VERIFICATION. DUE TO TECH PROBLEMS + ADVANCES IN STATE-OF-THE-ART THE PROJECT IS BEING TERMINATED. DEVICES ARE COMMERCIALY AVAILA8LE.	85.0	54.0	21.0	JUN 81	JUL 81
E 79 3708	COATED FABRIC COLLAPSIBLE FUEL TANK-CIRCULAR SEAM WEAVING STUDIES CONDUCTED ON YARN COATING AND SIZING PROCEDURE. SCALE MOD SEAMLESS FABRICS PRODUCED OF GOOD QUALITY. TRIAL COATINGS APPLIED TO SMALL SCALE SEAMLESS FABRICS ON LABORATORY COATER. FINAL COATING SELECTION WILL PROCEED UNDER PROJECT 5803708.	97.0	87.0	10.0	AUG 79	SEP 81
E 80 3708	COATED FABRIC COLLAPSIBLE FUEL TANK PROGRAM - CIRCULAR SEAML PROBLEMS ENCOUNTERED IN OBTAINING DESIRED COATING PROPERTIES USING AN AQUEOUS BASED POLYMER SOLUTION. PERFECTION OF THE COATING PROCESS IS CONTINUING UNDER THIS PROJECT. CURRENT EFFORTS DIRECTED TO PRODUCTION OF FULL SIZE SEAMLESS FABRIC AND COATING.	76.0	47.2	12.3	SEP 81	SEP 82
E 79 3709	CONTINUOUS LENGTH FUEL HOSE PHASE 2 WAS COMPLETED. THE ADVANCING MANOREL FABRICATION METHOD AND THE ETHYLENE GLYCOL CURING METHOD PROVED TO BE THE BEST CANDIDATE METHODS EVALUATED. PREPARATIONS ARE BEING MADE FOR PHASE 3 WORK.	245.0	164.5	50.3	SEP 81	MAR 82
E 80 3709	CONTINUOUS LENGTH FUEL HOSE PHASE 2 WAS COMPLETED. THE ADVANCING MANOREL FABRICATION METHOD AND THE ETHYLENE GLYCOL CURING METHOD PROVED TO BE THE BEST CANDIDATE METHODS EVALUATED. PREPARATIONS ARE BEING MADE FOR PHASE 3 WORK.	179.0		16.5	SEP 83	MAR 82

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-3D1

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
E 80 3717	HIGH TEMPERATURE TURBINE NOZZLE FOR 10 KW POWER UNIT CERAMIC VANES HAVE BEEN PRODUCED BY TWO DIFFERENT VENDORS. MACHINING OF THE SUPERALLOY SHROUD IS IN PROGRESS.	400.0	375.0	25.0	OCT 82	SEP 81
E 81 3717	HIGH TEMPERATURE TURBINE NOZZLE FOR 10KW PU THE CONTRACT HAS BEEN MODIFIED TO PROVIDE FOR ENGINE TESTING.	422.0	322.0	50.0	APR 82	SEP 82
E 79 3743	COMPOSITE SPUN MATERIAL LAUNCHING BEAM FOR BRIDGES UPPER AND LOWER CHORD WINDINGS HAVE BEEN COMPLETED. THE SECOND WINDING WAS ACCOMPLISHED WITH A REVISED PROCEDURE AND RESIN SYSTEM, AND WAS SUCCESSFUL.	833.0	833.0		SEP 80	DEC 82
E 81 3743	COMPOSITE SPUN MATERIAL LAUNCHING BEAM FOR BRIDGES UPPER AND LOWER CHORD WINDINGS HAVE BEEN COMPLETED. THE SECOND WINDING WAS ACCOMPLISHED WITH A REVISED PROCEDURE AND RESIN SYSTEM, AND WAS SUCCESSFUL.	100.0			JAN 82	JAN 82
E 81 3745	MMT AL SKIN-GRAPHITE/EPOXY SANDWICH BRIDGE REINFORCEMENT THE CONTRACT PACKAGE HAS BEEN COMPLETED AND FORWARDED TO PROCUREMENT FOR SOLICITATION.	454.0			JUN 82	JUN 82
E 80 3747	LIGHTER, LACV-3D, SKIRT AND FINGER COMPONENTS THE PRIME CONTRACTOR WILL SUBMIT A VECF WITH THE PURPOSE OF ESTABLISHING IMPROVED PRODUCTION TECHNIQUES AND LOWER FABRICATION COSTS. THESE TECHNIQUES WILL BE AMENABLE TO FIELD USE.	191.0		6.0	NOV 80	FEB 82
E 81 3747	LACV-3D, SKIRT + FINGER COMPONENTS BY LABORATORY DECISION, THE PRIME CONTRACTOR HAS BEEN REQUESTED TO SUBMIT A VECF FOR IMPROVED PRODUCTION TECHNIQUES AND LOWER FABRICATION COSTS.	60.0			FEB 83	SEP 81
E 77 3749	HYDRAULIC ROTOR ACTUATORS UN VEHICLE TESTING COMPLETED AND ACTUATORS SHIPPED TO BIRD-JOHNSON COMPANY. LEAKAGE AND WEAR ANALYSIS STARTED.	750.0	742.2		MAY 79	NOV 81
E 80 3749	HYDRAULIC ROTARY ACTUATORS REVISED CORNER PORTED END CASTINGS ARE BEING MACHINED. DEVELOPMENT OF THE TEST FACILITY IS UNDERWAY.	145.0	133.9		DEC 81	NOV 81
E 81 3749	HYDRAULIC ROTARY ACTUATORS FOR M9 PROCUREMENT DOCUMENTATION HAS BEEN SUBMITTED TO P AND P. AN RFQ HAS BEEN SENT TO THE CONTRACTOR.	106.0			JUL 81	APR 82
E 81 3759	KEVLAR CABLE REINF FOR MILITARY BRIDGES A CONTRACT WILL BE AWARDED 4Q81. CURRENTLY THE CONTRACT PACKAGE IS BEING HELD IN LEGAL AWAITING RESOLUTION OF LEGAL QUESTIONS CONCERNED WITH THE USE OF MMT MONEY CONCURRENTLY WITH R+D MONEY.	109.0			MAY 82	AUG 82



COMMUNICATIONS & ELECTRONICS COMMAND (CECOM)

COMMUNICATIONS + ELECTRONICS COMMAND

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* *	C O N T R A C T A L L O C A T E D ( \$ )	F U N D I N G E X P E N D E D ( \$ )	* *	I N H O U S E R E M A I N I N G ( \$ )	F U N D I N G E X P E N D E D ( \$ )	* *
76	1	437,800		392,800	358,800 ( 91%)		45,000	45,000 (100%)	
77	0	0		0	0 ( 0%)		0	0 ( 0%)	
77	0	0		0	0 ( 0%)		0	0 ( 0%)	
78	1	316,500		292,500	50,000 ( 17%)		24,000	24,000 (100%)	
79	2	1,110,000		1,440,800	1,078,100 ( 74%)		330,800	69,700 ( 21%)	
80	2	825,000		0	0 ( 0%)		825,000	37,500 ( 4%)	
81	5	2,693,800		0	0 ( 0%)		2,693,800	32,200 ( 1%)	
82	0	0		0	0 ( 0%)		0	0 ( 0%)	
TOTAL	11	5,383,100		2,126,100	1,486,900 ( 69%)		3,257,000	208,400 ( 6%)	

AUTHORIZED FUNDING

CONTRACT ALLOCATED 39%

INHOUSE REMAINING 60%

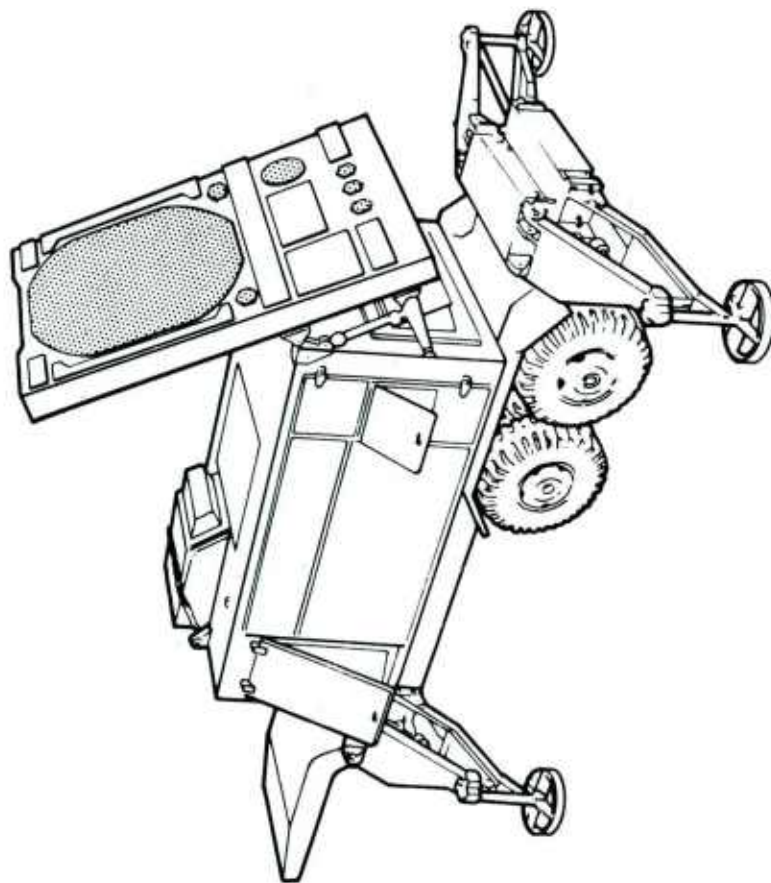
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
F 80 3036	CAD/CAM OF SPECIAL ELECTRONIC CIRCUITS ***** DELINQUENT STATUS REPORT *****	20.0		13.5	AUG 81	DEC 81
F 81 3036	CAD/CAM OF SPECIAL ELECTRONIC CIRCUITS (CAM) A CONTRACTOR WILL IDENTIFY COSTLY CIRCUITS IN THE SINGGARS-V (SINGLE CHANNEL) RADIO. TECHNICAL MANAGEMENT WAS TRANSFERRED FROM THE SINGGAR PM TO THE CECOM PRODUCTION ENGINEERING SUPPORT DIVISION WILL USE CAD/CAM OF CIRCUITS, COMPONENTS, AND ASSEMBLY.	310.0		4.0	DEC 81	OCT 82
F 81 3050	EPITAXY OF III-V SEMICONDUCTOR PHOTODETECTORS A CONTRACT HAS NOT YET BEEN LET. A FIRM WILL OPTIMIZE THE EPITAXIAL GROWTH OF III-V MATERIAL FOR PHOTOIODES. THE UNITS WILL BE ENCAPSULATED WITH A PREAMP IN A SMALL PACKAGE. ARE FOR THE 1.0 TO 1.67 MICRON REGION.	80.8		10.0	DEC 83	DEC 83
F 80 3054	PRODUCTION METHODS FOR MULTI-LAYER FOLDED CIRCUITS CONTRACT BEING NEGOTIATED. USER READOUT BOARD WAS DELETED FROM EFFORT. AWARD EXPECTED AUG 81. HUGHES WILL SELECT MATERIALS, CREATE PROCESS SPECS AND TEST MULTI-LAYER, MULTI-FOLDING RIGID-FLEX CIRCUIT BOARDS. ETCHING AND PLATING WILL BE OPTIMIZED.	805.0		24.0	SEP 82	NOV 82
F 81 3056	ELECTROLUMINESCENT NUMERIC MODULES CONTRACT NOT YET AWARDED. PROJECT WILL AUTOMATE MATERIAL DEPOSITION PROCESSES FOR ELECTROLUMINESCENT THIN FILM NUMERIC DISPLAY MODULES. NEW METHODS FOR CIRCUIT BONDING, CLEANING, HERMETIC SEALING + PACKAGING 10,000 MODULES PER MONTH WILL BE DEVISED.	777.0			DEC 82	JUL 83
F 81 3057	HIGH STABILITY VIBRATION RESISTANT QUARTZ CRYSTALS CONTRACT NOT YET AWARDED. PROJECT WILL ESTABLISH A COMMERCIAL SOURCE FOR HIGH STABILITY SC-CUT QUARTZ CRYSTALS. TASKS INCLUDE CUTTING, LAPPING, ANGLE CORRECTING + MOUNTING. EACH CRYSTAL WILL BE SEALED IN A CERAMIC FLATPACK..	800.0		11.2	JUL 83	JUL 83
2 76 9778	LONG LIFE LIGHT EMITTER FOR FIBER OPTICS SEE INDIVIDUAL SUBTASKS. END OF CONTRACT DEMONSTRATION WAS HELD AT LASER DIODE LABS ON 18 FEB 81. ALL DELIVERABLES WERE RECEIVED.	437.8	392.8	45.0	AUG 78	JUN 81
2 76 9778 A	LONG LIFE LIGHT EMITTER FOR FIBER OPTICS LASER DIODE LABS SOLVED PRODUCTION PROBLEMS WITH SINGLE STRIPE INJECTION LASER DIODES FOR FIBER OPTIC COMMUNICATIONS. THE TRIPLE STRIPE DIODE CONSISTS OF 3 LASING ELEMENTS MOUNTED IN A PACKAGE EQUIPPED WITH AN OPTICAL WINDOW. RPT SENT IN JUNE 1981.	216.4	193.9	22.5		JUN 81
2 76 9778 B	LONG LIFE LIGHT EMITTER FOR FIBER OPTICS LASER DIODE LABS COMPLETED METHODS OF FORMING PNP STRUCTURES IN ZINC-DIFFUSED WAFER FOR LED FABRICATION. A SCANNING ELECTRON MICROSCOPE AIDED CHARACTERIZATION OF THE JUNCTION. THE LED MOUNTS IN FIBER OPTICS CABLE ASSEMBLY. FINAL REPORT SENT JUNE 81.	221.4	198.9	22.5		JUN 81

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
F 79 9835	INTEGRATED THIN FILM TRANSISTOR DISPLAY AERDJET HAD STRESS PROBLEMS IN UPPER STACKS THAT CAUSED PEELING IN BLACK COTE ENHANCING LAYER. UPPER STRUCTURE POLYIMIDE LAYERS IS BEING REARRANGED TO STOP STRESS + ELECTRICALLY ISOLATE INTERCONNECTIONS + GROUND PLANE. FINAL MASKS BEING PREPARED.	600.0	943.8	13.5	AUG 81	AUG 81
F 81 9851	TACTICAL MINIATURE CRYSTAL OSCILLATORS CONTRACT NOT YET AWARDED. PROJECT WILL ESTABLISH HIGH VACUUM SEALING, METALLIZATION, BRAZING, BONDING, BAKING, AND CLEANING PROCESSES FOR CERAMIC FLATPACK ENCLOSED QUARTZ CRYSTAL OSCILLATORS. DEVICE YIELDS AND PERFORMANCE WILL BE IMPROVED.	726.0		7.0	MAR 84	MAR 84
2 78 9898	RUGGEIZED TACTICAL FIBER OPTIC CABLES ITT ELECTRO-OPTICS BUILT SPECIAL EXTRUSION AND MOLDING OIES TO JACKET FIBER OPTIC CABLE BUNDLES. SAMPLES ARE BEING TESTED FOR LOW LOSS AND MECHANICAL STRENGTH.	316.5	292.5	24.0	NOV 79	DEC 81
F 79 9938	THREE COLOR LIGHT EMITTING DIODE DISPLAY UNIT CHANGES WERE MADE TO THE ARTWORK AND THE SUBSTRATE EDGES TO ALLEVIATE PRODUCTION PROBLEMS. EXPECTED RATES FOR THE CHIP BONDOR IS 5000/HR. THE WIRE BONDOR SHOULD ACHIEVE RATES OF 6000-7200/HR. THE TDS SYSTEM IS UUT, LOOKING FOR OTHER APPLICATIONS.	510.0	497.0	56.2	SEP 81	AUG 82





## **ELECTRONICS R&D COMMAND (ERADCOM)**



## ELECTRONICS R + D COMNAME

CURRENT FUNDING STATUS, 1ST CY81.

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* * C O N T R A C T A L L O C A T E D ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )	* * I N H O U S E R E M A I N I N G ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )
76	2	431,700	375,500	347,000 ( 92%)	56,200	35,000 ( 62%)
77	0	0	0	0 ( 0%)	0	0 ( 0%)
77	8	7,136,200	6,192,000	4,223,600 ( 68%)	944,200	451,000 ( 47%)
78	5	3,673,400	3,343,400	3,282,400 ( 98%)	330,000	332,100 (100%)
79	10	5,647,800	5,064,900	2,491,100 ( 49%)	582,900	437,200 ( 75%)
80	12	7,089,200	5,395,900	2,229,700 ( 41%)	1,693,300	447,800 ( 26%)
81	7	4,975,000	2,997,600	764,500 ( 25%)	1,977,400	173,900 ( 8%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	44	28,953,300	23,369,300	13,338,300 ( 57%)	5,584,000	1,877,000 ( 33%)

AUTHORIZED FUNDING                      CONTRACT ALLOCATED 81%                      INHOUSE REMAINING 19%

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 80 3010	MILLIMETER-WAVE SOURCES FOR 60, 94, AND 140 GHZ HUGHES ADDED A MICROPROCESSOR AND FLOW CONTROLLERS TO THE VAPOR PHASE REACTOR TO IMPROVE INJECTION DOPING OF IMPACT DIODES. REDUCED THERMAL RESISTIVITY AND IMPROVED LEAD UNIFORMITY WERE REALIZED. A CONTRACT MOD TO ADD A PILOT RUN WAS PROPOSED.	822.0	534.4	7.7	JUL 82	JUN 82
H 80 3012	INFRA-RED SOURCE FOR ANALQ-144 ILC TECHNOLOGY ESTABLISHED GRAPHITE HEATER MACHINING METHODS FOR IMPROVED IR SOURCES WITH YIELDS AS HIGH AS 85%. CHEMICAL VAPOR DEPOSITION OF BORON ON THE ELEMENTS WAS OPTIMIZED FOR HIGH RELIABILITY. A LABOR COST OVERRUN OF \$66000 IS FORECAST BY ILC.	350.0	264.3	21.5	JAN 81	OCT 81
H 80 3023	TUBULAR PLASMA PANEL FIXTURES FOR HOLDING THE GLASS PLATES FOR AUTOMATED CLEANING AND FOR EXPOSURE AND SPUTTERING HAVE BEEN MANUFACTURED. SAMPLE PLATES HAVE BEEN PROCESSED THRU THE AUTOMATED CHAMBER. A TEST SET AND EXERCISER HAS BEEN ASSEMBLED.	800.0	674.0	56.0	APR 82	NOV 81
H 80 3026	HIGH PRESSURE OXIDE IC PROCESS ELECTRONICS TECH + DEVICES LABS RECEIVED FROM AUTOCLAVE ENGINEERS PARTS FOR THE HIGH PRESSURE LOW TEMPERATURE OXIDATION CHAMBER. IT WILL BE OPERATIONAL IN SEPTEMBER BUT SLOW DELIVERY CAUSED 6-MONTH SLIPPAGE. A \$70K COST OVERRUN IS PROJECTED.	404.5	101.0	53.3	MAY 82	OCT 82
H 81 3031	10.6 UM CO-2 TEA LASERS RAYTHEON IS DEVELOPING CO2 LASER PRODUCTION METHODS TO INSURE ALIGNMENT INTEGRITY IN ADVERSE ENVIRONMENTS. CRITICAL AREAS BEING OPTIMIZED INCLUDE MIRROR ALIGNMENT, ELECTRODE CONTOURING, AND GAS MIXTURE. PRODUCTION OF INITIAL SAMPLES IS UNDERWAY.	550.0	486.4	36.5	JAN 85	DEC 85
H 80 3501	THIRD GENERATION PHOTOCATHODE ON FIBER OPTIC FACEPLATE ITT EOP DIVISION DELIVERED SAMPLE IMAGE INTENSIFIER PHOTOCATHODES USING A VAPOR EPITAXY GROWTH SYSTEM. COSMETIC AND SENSITIVITY DEFICIENCIES OCCUR WHEN BONDING FIBERS ONTO THE FACEPLATE AND HEAT-CLEANING THE SUBSTRATE MATERIAL.	572.4	492.4	51.4	MAR 82	APR 82
H 79 3504	ADV METH F/FA8R CHALCOGENIDE GL IR LENS BKS AMORPHOUS MATERIALS CAST 8 + 10 INCH DIAMETER GA-AS-SE GLASS PLATES. LENS BLANKS WERE OBTAINED FROM PLATES BY CORE DRILLING, SAWING, GRINDING + POLISHING. OPTICAL QUALITY + YIELDS MET ALL GOALS. WORK IS COMPLETE. A FACILITIES PROJECT WILL FOLLOW.	305.1	258.3	38.5	MAY 81	MAR 82
H 81 3505	HIGH CONTRAST CRT PHOSPHOR DEPOSITION AND SEALING A CONTRACTOR WILL DEVELOP AN AUTOMATED PROCESS FOR DEPOSITING TRANSPARENT PHOSPHOR FILMS WITH A BLACK LIGHT ABSORBING LAYER TO PROVIDE ECONOMICAL, HIGH-CONTRAST SUNLIGHT-LEGIBLE CATHODE RAY TUBES. FOR APR-39 EW WARNING RECEIVER + AVR-2 OPTICAL SYS.	303.0	278.0		OCT 82	OCT 82

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 80 3510	TRANSDUCER PROCESS TECHNOLOGY FOR MW DELAY LINES WESTINGHOUSE COMPLETED AN EXPANDED TEST SCHEDULE ON ZINC OXIDE PIEZO-ELECTRIC TRANSDUCERS. TESTS SHOW MEMORY EFFECT MAY BE DUE TO OXYGEN CONTENT. YIELDS ONCE LOWER THAN 10% ARE NOW ROUTINELY ABOVE 35%. PRESPUTTERING WITH 100% OXYGEN GAVE 80% YIELDS.	509.0	272.0	90.0	AUG 82	AUG 82
H 78 3511	FAB OF SUBMICRON PHOTOMASKS FOR INTEGRATED CIRCUIT DEVICES HEWLETT-PACKARD COMPLETED THE ON-LINE ERROR CORRECTOR FOR 2-3 MICRON PHOTOLITHOGRAPHY. OPTIMETRIX DELIVERED THE DIRECT WAFER STEPPER HAVING 0.1 MICRON ACCURACY. INITIAL TESTING AT HOL HAD GOOD RESULTS. PRESENTATION IS PLANNED FOR MTAG.	732.0	713.7	18.3	SEP 81	JUN 81
H 79 3516	CRYOGENIC COOLER HYBRID MOTOR CIRCUIT AEROFLEX CHANGED GULD PADS TO INCREASE BONDING RELIABILITY, AND LAYOUT TO EASE ASSEMBLY. WIRE LENGTHS WERE EQUALIZED FOR ALL TRANSISTORS. NEW ARTWORK RESOLVED PREVIOUS LAYOUT PROBLEMS. HYBRID SUBSTRATES INCORPORATING NEW DESIGNS ARE BEING PRINTED.	175.9	140.8	35.0	JUN 81	JUN 82
H 79 5000	PRODUCTION HOT FORGING OF ALKALI HALIDE LENSES HONEYWELL ELIMINATED THE USE OF PRESSURIZED HELIUM IN HOT FORGING POTASSIUM BROMIDE COLOR-CORRECTOR LENSES, ENHANCING SAFETY. INCREASED YIELDS ALLOWED REPLACING THE 3X7 BATCH PROCESS WITH A 2X3 BROMIDE LENSES REPLACE ZINC SELENIDE LENSES.	591.0	541.0	50.0	SEP 81	OCT 81
H 81 5041	MILLIMETER-WAVE MIXERS A CONTRACTOR WILL ESTABLISH A HIGH-YIELD METHOD FOR MAKING MILLIMETER-WAVE SCHOTTKY DIODES FOR RADAR AND COMMUNICATIONS SYSTEMS. COMPUTER-CONTROL, ION IMPLANTATION, AND ELECTRON BEAM LITHOGRAPHY WILL BE USED FOR PRECISION MATERIAL GROWTH AND DOPING.	1,152.0		66.4	JUL 83	JUL 83
H 79 5042	LARGE DIAMETER ND LITTON GREW 3 50MM DIAMETER ND-YAG CRYSTALS TO 64MM LENGTH. 80ULES SHOWED SOME DEFECTS BUT WERE ADEQUATE TO FABRICATE 12 SAMPLE LASER RODS. ADDITIONAL \$120K AND 6 MONTHS ARE REQUIRED TO COMPLETE THIS BEHIND SCHEDULE PROJECT.	350.0	303.0	42.0	JUL 81	SEP 82
H 80 5094	MMT-8 KBIT MNDS BORAM WESTINGHOUSE DELIVERED A SAMPLE LOT OF 16-CHIP HYBRID CIRCUITS FOR 8K BLOCK OPERATED RANDOM ACCESS MEMORIES. WORK WAS COORDINATED WITH A MISFAS CONTRACT. HAS 4 MONTHS SLIPPAGE.	80.0	80.0		JUN 81	OCT 81
H 80 5110	COMMON MODULE DETECTOR ARRAY SANTA BARBARA RESEARCH CENTER BUILT IMPROVED POLISHING AND LAPPING EQUIPMENT FOR BULK PROCESSING OF DETECTOR ARRAYS. A PILOT LINE RUN WAS MADE. TEST AND DELIVERY WERE DELAYED BY CONTRACTOR MISUNDERSTANDING OF TEST CRITERIA. SEE FOLLOW-ON PROJECT.	1,150.0	1,090.7	32.4	JUN 81	SEP 81

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PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)		
H 81 5110	COMMON MODULE DETECTOR ARRAYS HONEYWELL COMPLETED ALL IMPROVEMENTS IN PRODUCTION LINE PROCESSING OF DETECTOR/OEWAR ASSEMBLIES, DELIVERED DETECTOR SAMPLES, AND RAISED YIELDS TO 15%. A \$130K CONTRACT EXTENSION IS NEEDED TO DEVELOP A MICROPHONIC TEST OF INSTALLED DETECTORS.	875.0	825.0	50.0	JUN 81	JUN 81
H 80 5147	H1 RESISTIVITY POLYCRYSTALLINE SILICON HEMLOCK SEMICONDUCTOR PRODUCED 160 KILOGRAMS OF 25MM DETECTOR GRADE POLYSILICON FOR USE IN LASER SEEKER DETECTORS. A \$60K CONTRACT MOD IS BEING CONSIDERED FOR PRODUCING 64-72MM POLYSILICON USING A PROPRIETARY VAPOR PHASE PURIFICATION PROCESS.	340.0	300.0	29.0	SEP 82	SEP 81
H 80 9563	MINIATURE HIGH VOLTAGE POWER SUPPLIES FOR NIGHT VISION GOGGLES DELIVERY OF THE SECOND ENGINEERING SAMPLES IS ANTICIPATED IN AUGUST. A MINOR DESIGN CHANGE WAS INCORPORATED INTO THE HYBRID TO ALLEVIATE POWER SUPPLY TURN ON PROBLEMS.	535.0	349.1	15.0	JUN 82	DEC 82
H 80 9588	THIRD GENERATION LOW COST IMAGE INTENSIFIER TUBES VARO ESTABLISHED PRODUCTION INSPECTION + SALVAGE TECHNIQUES FOR 3RD GEN IMAGE INTENSIFIER TUBES. VACUUM PROCESSES OPTIMIZED INCLUDE GETTER FLASH + ELECTRON DESORPTION OF MICROCHANNEL PLATE + PHOSPHOR SCREEN. FIRST RUN OF SAMPLES WAS DELAYED 6 MONTHS.	900.0	638.7	78.7	APR 83	OCT 84
H 81 9588	THIRD GENERATION LOW COST IMAGE INTENSIFIER TUBES LITTON WAS FUNDED AS A 2ND SOURCE FOR 3RD GEN IMAGE INTENSIFIER TUBES. PRODUCTION PROCESS FOR PHOTOCATHODE SUBSTRATE (MICROCHANNEL PLATE WITH ION BARRIER FILM + PHOSPHOR SCREEN) WERE IMPROVED. FOUR TUBES TESTED FROM 1ST SAMPLE LOT WERE OPERATIONAL.	714.0	695.0	19.0	JUN 84	JUN 84
2 76 9738	EPITAXIAL + METALLIZATION PROCESSES F/GAAS IMPATT DIODES MICROWAVE ASSOCIATES COMPLETED AUTOMATION OF EPITAXIAL GROWTH AND DOPING OF GAAS DIODES THROUGH CONTROL OF GAS FLOW AND DEPOSITION RATES. A FINAL REPORT IS BEING DRAFTED AND A PRODUCTION CAPABILITY DEMONSTRATION IS SCHEDULED FOR SEPTEMBER 1981.	248.8	247.0		JUN 77	NOV 81
H 78 9738	PULSED GALLIUM ARSENIDE IMPATT DIODES MICROWAVE ASSOCIATES HAD SEVERAL PROBLEMS GROWING GAAS IMPATT DIODES-POOR SUBSTRATES, DOPING TRANSIENTS, UNEVEN EPITAXIAL GROWTH, AND FLAWED COMPUTER SOFTWARE. REDIRECTION OF WORK TO MAKE SIMPLER, HIGHER-FREQUENCY DIODES IS SOUGHT. EXT. NOT RECOM.	500.0	441.2	58.8	JUN 80	SEP 82
2 77 9754	CONTINUED CYCLE PROC OF SHOCK RESISTANT QUARTZ CRYSTAL UNITS GENO BUILT A PILOT LINE FOR 22MHZ AT-CUT QUARTZ CRYSTALS. WORK INCLUDED SEMIAUTOMATIC VACUUM CLEANING, BAKEOUT, SPOT PLATING + SEALING. ONLY 1 OF 92 SAMPLE CRYSTALS FAILED THE SEAL TEST. PILOT RUN AND FINAL REPORT REMAIN TO BE DONE.	2,156.7	2,093.7	63.0	OCT 79	MAR 82

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 76 9766	DEPOSITION OF A HIGHVOLTAGE INSULATING LAYER FOR THICK FILM ERIE TECH RESOLVED HIGH CHARGING CURRENT PROBLEM BY REDUCING SIZE OF CAPACITOR ELECTRODES. NEW ELECTRODE SILVER COATING SCREEN WAS RECEIVED. CONTRACT MOD IS IN PROCESS. FUTURE SLIPPAGE WILL RESULT IN CONTRACT TERMINATION, PER PROJECT ENGINEER.	182.9	128.5	35.0	AUG 78	JUN 82
H 79 9783	PRODUCTION OF HIGH RESISTIVITY SILICON MATERIAL HUGHES COMPLETED WORK ON AN 'AUTOMATION-READY' ZONE REFINER FOR GROWING HIGH-PURITY SINGLE-CRYSTAL SILICON. TO COVER COST OF A NEW ZONER FOR MAKING 3" DIAMETER CRYSTALS, HUGHES PLANS TO REQUEST AN ADDITIONAL \$500K. THIS IS A JOINT ARMY/AF PROJECT.	918.0	858.0	50.0	DEC 81	DEC 81
H 78 9793	PRODUCTION OF INTAGLIATED FIBER OPTIC PHOSPHOR SCREEN ***** DELINQUENT STATUS REPORT *****	200.0	177.1	32.0	DEC 79	DEC 81
2 77 9805	AUTO MICROCIRCUIT BRIDGE PON MEASURE OF QUARTZ CRYSTALS HUGHES DEVELOPED AN AUTOMATIC QUARTZ CRYSTAL PARAMETER MEASUREMENT SYSTEM TO REPLACE OBSOLETE CRYSTAL IMPEDANCE METERS. CONTROL BOARD NOISE WAS REDUCED FROM 800MV TO 5MV. CALIBRATION ELEMENTS WERE SYSTEM TESTED. SOFTWARE IS NEARLY COMPLETED.	818.0	718.0	89.0	JAN 79	SEP 81
H 79 9805	QUARTZ CRYSTAL PARAMETER TESTING FOLLOW-ON TO FY77 PROJECT. HUGHES IS INCREASING CAPACITY OF FY77 EQUIPMENT FROM 25 TO 200 CRYSTALS PER DAY. TEMPERATURE CHAMBERS WERE RECEIVED AND ARE BEING MODIFIED. RACK LOADER CONSTRUCTION IS 50% COMPLETE. COMMERCIAL METERING EQUIP WAS EVALUATED.	725.0	663.0	10.0	JUN 80	MAR 82
H 79 9807	PROCESSING HIGH STABILITY QUARTZ CRYSTAL UNIT PHASE 111 FOLLOW-ON TO 2 77 9754. GEND WILL EXPAND PILOT LINE TO 5MHZ + 10MHZ AT-CUT QUARTZ CRYSTALS. OPERATIONS INCLUDE X-RAY DIFFRACTION, MOUNTING, BONDING, + ELECTROPLATING. TEST EQUIPMENT WAS MODIFIED. \$448K MORE IS NEEDED TO FINISH THE PROJECT.	818.0	760.0	50.0	MAR 81	AUG 83
2 77 9809	MEAS TECHNIQ FOR CHEMICALS IN MFG PROC FOR SOLID ST MICROWV STATISTICAL ANALYSIS OF PIN DIODES MFRD WAS COMPLETED. CORRELATION BETWEEN LEVEL OF CONTAMINANTS AND ELECTRICAL PERFORMANCE OF PIN DIODES WAS NOT DEMONSTRATED. THIS WAS PRIMARILY DUE TO AN INSUFFICIENT DATA BASE FOR THE ANALYSIS.	632.1	625.1	7.0	NOV 78	DEC 81
2 77 9812	SPLIT CYCLE STIRLING COOLER MARTIN-MARIETTA COMPLETED WORK ON SPLIT-CYCLE STIRLING COOLERS FOR USE WITH COMMON MODULE INFRARED DETECTORS. PRECISION SEALS AND CRANKCASE PARTS WERE MADE. A PRODUCTION RATE OF 10 COOLERS PER WEEK WAS DEMONSTRATED.	795.0	439.0	65.0	JAN 80	JUN 81

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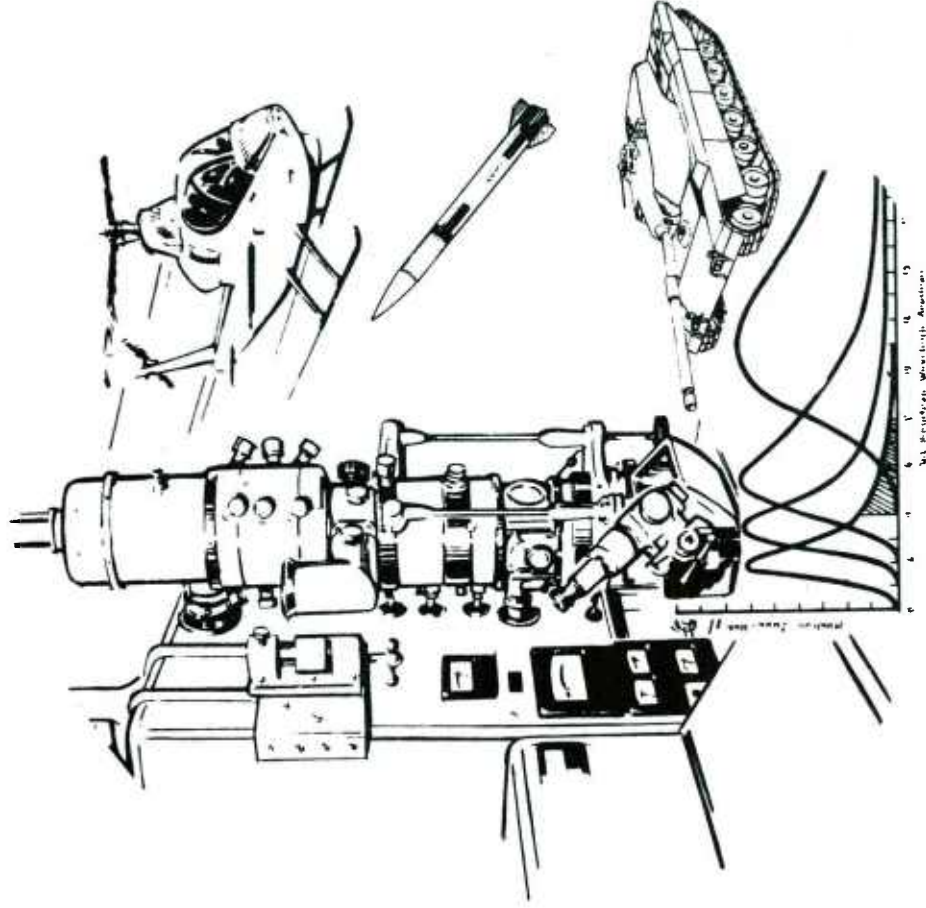
PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 77 9813	RUGGEDIZED LOW COST QUADRANT DETECTOR FOR CLGP. TEXAS INSTRUMENTS WILL CONTINUE WORK ON RUGGED, LOW-COST QUADRANT PHOTODETECTORS. A SEVERE SHORTAGE OF QUALIFIED VENDORS EXISTS. IN AN EFFORT TO REACH CONTRACT GOALS, TI SUBMITTED A WAVER REQUEST VS THE DARK LEAKAGE CURRENT SPEC.	375.0	159.0	40.0	JAN 80	UCT 81
H 79 9838	MINIATURE CATHODE RAY TUBES THE DEFLECTION COIL WAS REDESIGNED TO INCREASE SENSITIVITY. MODIFICATIONS TO THE ELECTRONICS WERE MADE TO REDUCE THE SPOT SIZE. A NEW DELIVERY SCHEDULE FOR THE SECOND ENGINEERING SAMPLES IS BEING NEGOTIATED.	369.2	278.8	62.7	AUG 81	APR 82
H 79 9844	CMOS CIRCUITS USING SILICON ON SAPPHIRE -SOS-TECHNOLOGY ROCKWELL WILL PRODUCE A LOT OF 4D HIGH SPEED SILICON-ON-SAPPHIRE (SOS) CIRCUITS USING ITS PROCESS EVALUATION CHIP 11142 AND THE GPS 1/D CHIP. THE SOS SUBSTRATES WERE RECEIVED FROM UNION CARBIDE AND EVALUATED BY AN AUTOMATIC HAZE-MEASURING INSTRUMENT.	770.0	686.4	49.0	NOV 81	DEC 82
2 77 9845	NUMERICALLY CONTROLLED OPTICAL FABRICATION FOUR ASPHERIC ALUMINUM MIRRORS AND SIXTEEN ASPHERIC GERMANIUM LENSES HAVE BEEN FABRICATED VIA DIAMOND TURNING.	365.0	335.5	29.0	OCT 77	AUG 81
2 77 9857	AUTO SEPARATION, CARRIER MOUNTING + TESTING OF SEMI-CDT DICE HONEYWELL COMPLETED A PILOT ASSEMBLY LINE FOR A COUNTER HY8RID AND SENT 1200 UNITS TO ERADCOM. THE LINE USED TAPE-CARRIER MOUNTING OF CHIPS FOR BURN-IN, TESTING, AND PLACING IN CIRCUITRY. 93% OF TESTED TAB CHIPS WERE GOOD VS 52% OF DC PROBED CHIPS.	1,275.0	1,129.3	131.0	OCT 79	APR 82
H 78 9860	PDN TECHQ-GALLIUM ARSENIDE MIMAV FIELD EFFECT TRANSISTORS HUGHES AUTOMATED GALLIUM ARSENIDE TRANSISTOR PROCESSING USING IDN IMPLANTATION AND ELECTRON-BEAM LITHOGRAPHY. PILOT RUNS WERE COMPLETED AND SAMPLES ARE UNDERGOING IN-HOUSE TESTING. TRANSISTORS PASSED PERFORMANCE TESTS UP TO 12 GHZ, BUT NOT TO 18 GHZ.	469.3	399.3	64.0	NOV 80	SEP 81
2 77 9873	ANTENNA PATTERN MEASUREMENTS USING NEARFIELD TECHNIQUES THE ENTIRE SYS. HAS BEEN ASSEMBLED AND IS OPERATIONAL. THE MAJOR ELEMENTS ARE XY-POSITIONER, ANTENNA SUPPORT STRUCTURE, RF SUBSYSTEM AND A COMPUTER SYSTEM.	719.4	692.4	27.0	OCT 79	OCT 81
H 79 9877	LIGHT EMITTING DIODE ARRAY COMMON MODULE SPECTRONICS HAD CONTAMINATION PROBLEMS IN REACTORS USED FOR EPITAXIAL GROWTH OF GALLIUM ARSENIDE PHOSPHIDE LED MATERIAL ON GAAS WAFERS. ALL FUNDS WERE EXPENDED AND WORK STOPPED FEB 81. VENDOR REQUESTED \$114K MORE TO COMPLETE A MODIFIED WORK SCOPE.	625.6	575.6	50.0	APR 81	DEC 82



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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 78 9889	THIRD GENERATION D-9 MICRON WAFER INTENSIFIER TUBE SEE TASKS A AND 8 BELOW.	1,772.1	1,612.1	159.0	JUN 81	MAR 82
H 78 9889 A	THIRD GENERATION D-9 MICRON WAFER INTENSIFIER TUBE (ITT) ITT SPENT ALL FUNDS RESOLVING TUBE TECHNICAL PROBLEMS. CONTRACT TO BE MODIFIED TO PROVIDE \$125K MORE FOR A REDUCED WORK SCOPE. SMALLER B TUBE SAMPLE TEST WILL BE ALLOWED. TUBE PHOSPHOR OUTGASSING AND INDIUM SEALING WILL BE PERFORMED.	712.1	632.1	79.0	JUN 81	MAR 82
H 78 9889 8	THIRD GENERATION D-9 MICRON WAFER INTENSIFIER TUBE (VARIAN) VARIAN SPENT ALL FUNDS RESOLVING TECHNICAL PROBLEMS. ENGINEERING SAMPLES WERE COMPLETED. MORE FUNDS WERE THEN MADE AVAILABLE TO COMPLETE TESTS OF FIRST 5 TUBES AND TO DELIVER SOFTWARE. PILOT RUN REQUIREMENT WAS DELETED.	1,060.0	980.0	80.0	JUN 81	DEC 81
H 81 9889	18MM THRID GENERATION D-9 MICRON WAFER INTENSIFIER TUBE SEE TASKS A AND 8 BELOW.	518.0		2.0	JUN 83	JUN 83
H 81 9889 A	IMP 18MM 3RD GEN D-9 MICRON WAFER INTENSIFIER TUBE (ITT) FOLLOW-ON TO H 78 9889A. CONTRACT NOT YET AWARDED. CONTRACTOR WILL CORRECT 3RD GEN IMAGE TUBE GLARE PROBLEM WITH GLASS BULLSEYE FACEPLATE. TUBE GAIN WILL ALSO BE INCREASED. CHANGES IN CATHODE HEAT CLEANING AND INCOMING INSPECTION ARE REQUIRED.	259.0		1.0	JUN 83	JUN 83
H 81 9889 8	IMP 18MM 3RD GEN D-9 MICRON WAFER INTENSIFIER TUBE (VARIAN) FOLLOW-ON TO SUB-B. CONTRACT NOT YET AWARDED. FIRM WILL BUILD 3RD GEN TUBES WITH INCREASED GLARE PERFORMANCE + GAIN. PHOTOCATHODE ACTIVATION, MICROCHANNEL PLATE, PHOSPHOR OUTGASSING + INDIUM SEALING WILL BE INTEGRATED. HIGHER VACUUM CHECK USED.	259.0		1.0	JUN 83	JUN 83
H 80 9897	SURFACE ACOUSTIC WAVE RESONATOR + REFLECTIVE ARRAY DEVICES DEVICE TYPE A CONFIGURATION HAS BEEN CHANGED TO SUPPORT AN R+D SYSTEM RESULTING IN A COST INCREASE AND ONE MONTHS SLIPPAGE. DEVICE TYPE B IS SLIPPING APPROX 7 MONTHS DUE TO PERSONNEL SHORTAGES.	626.3	599.3	12.8	AUG 82	OCT 82
H 81 9909	PRODUCTION TECHNIQUES FOR 51 MW PWR TRANSISTORS MICROWAVE SEMICONDUCTOR CORPORATION WILL DEVELOP PRODUCTION METHODS FOR SILICON MICROWAVE POWER TRANSISTORS USING BASE IMPLANTATION, SHALLOW EMITTER DIFFUSION, STEPPED ELECTRODE METALLIZATION, PLASMA ETCHING, AND SELF-ALIGNING METALLIZATION.	863.0	713.2		SEP 83	SEP 83





# **US ARMY MATERIALS AND MECHANICS RESEARCH CENTER (AMMRC)**

ARMY MATERIALS AND MECHANICS RESEARCH CENTER

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* C O N T R A C T A L L O C A T E D ( \$ )	* F U N D I N G E X P E N D E D ( \$ )	* I N H O U S E R E M A I N I N G ( \$ )	* F U N D I N G E X P E N D E D ( \$ )	* %
79	2	4,922,900	2,361,800	2,361,800 (100%)	2,561,100	2,522,200 ( 98%)	
80	2	4,654,000	1,950,000	235,600 ( 12%)	2,704,000	2,693,600 ( 99%)	
81	2	4,351,100	1,722,000	0 ( 0%)	2,629,100	2,309,600 ( 87%)	
82	0	0	0	0 ( 0%)	0	0 ( 0%)	
TOTAL	6	13,928,000	6,033,800	2,597,400 ( 43%)	7,894,200	7,525,400 ( 95%)	
AUTHORIZED FUNDING			CONTRACT ALLOCATED 43%		INHOUSE REMAINING 56%		

S U M M A R Y P R O J E C T S T A T U S R E P O R T  
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
1ST SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 79 6350	MATERIALS TESTING TECHNOLOGY (MTT) SEE SUBTASKS BELOW FOR PROJECT STATUS.	4,660.0	2,157.5	2,502.5	OCT 80	OCT 81
M 79 6350 2025	AUTO INSPECTION DEVICE FOR EXPLOSIVE CHARGE IN SHELL THE AMRC WORK HAS BEEN TERMINATED. ONLY ADMIN DETAILS REMAIN TO BE ACCOMPLISHED. A VENDOR HAS BEEN FOUND WHO IS WILLING TO USE OR DISPOSE OF FOUR UNUSED COLBALT-60 RADIOACTIVE SOURCES REMAINING FROM THE PROJECT SUBJECT TO APPROVAL.	531.5	531.5		JAN 80	JUN 81
M 79 6350 2401	CANNON TUBE AUTOMATIC MAGNETIC 80RESCOPE INSPECTION 2 MRB SYSTEMS HAVE BEEN DELIVERED. THE CONTRACT WAS MODIFIED TO INCLUDE ADDITIONAL MRB FEATURES. THESE SYS WILL BE MODIFIED TO INSPECT THE 120MM + 155M TUBES. THE CONTRACT FOR THESE MODS WILL BE AWARDED IN JUNE 1981.	339.0	188.0	112.0	JUL 80	FEB 83
M 79 6350 2403	IMPROVED STANDARDIZED WEAPON CHAMBER PRESSURE MEAS A 4 CHANNEL SIGNAL CONDITIONER HAS BEEN CONSTRUCTED. THIS NEW CAPABILITY IS ESSENTIAL FOR THE DYNAMIC TEST PHASE WHEN THE TRANSDUCER TYPE IS CHANGED FROM CHARGE, STRAIN OR VOLTAGE FOR EACH FIRING.	106.0		58.5		SEP 81
M 79 6350 2412	MODAL ANALYSIS OF STRUCTURES THIS TASK HAS BEEN COMPLETED. IT WAS CONCLUDED THAT MODEL ANALYSIS DOES NOT LEND ITSELF TO THE DETECTION OF HONEYCOMB PANED BONDING FLAWS 2-5 INCHES OR LESS IN DIAMETER. A MORE SUITABLE APPROACH WOULD BE THE APPLICATION OF SIGNATURE ANALYSIS.	62.0		60.0	AUG 81	JUL 81
M 79 6350 2414	ELECTROTHERMAL ANALOG RESPONSE INSP OF EED'S THE DESTRUCTIVE + NONDESTRUCTIVE TESTING OF THE PASD6 ELECTRIC DELAY DETONATOR + THE MDD ELECTRIC DETONATOR HAS BEEN COMPLETED. THE RESULTS WERE VERY ENCOURAGING. HOWEVER, BEFORE THE RESULTS OF THIS EFFORT CAN BE IMPLEMENTED, ADDITIONAL TEST ARE REQ.	85.0	30.0	22.4	OCT 80	AUG 81
M 79 6350 2417	COPPERHEAD CRITICAL FLAW DETECT OF COMPLEX COMPONENTS A CONTRACT WAS AWARDED TO CONDUCT AN APPLICATIONS STUDY UTILIZING THE EDDY CURRENT TECHNIQUE WHICH SHALL ESTABLISH THE TECH AS VIABLE, DEMONSTRATE AND ESTABLISH THE TECH.	35.0		35.0		JAN 82
M 79 6350 2420	CALIBRATION FOR OPTICAL SCRATCH/DIG STDS FOR FIRE CONT THE N85 PROPOSAL WAS SOLICITED, FOLLOWING CANCELLATION OF AN EARLIER PROCUREMENT RFQ WHICH GENERATED TWO RESPONSES, BOTH COSTS EXCEEDED AVAILABLE FUNDS. THE N85 PROPOSAL REQ SOME ADDITIONAL FUNDING WHICH HAS BEEN APPROVED.	110.0		13.5	DEC 80	MAR 83
M 79 6350 2422	INSPECT/MEAS METHOD FOR SPHERICAL SURFACED COMPONENTS THE RFP WAS RELEASED BY PROCUREMENT. THE CLOSING DATE WAS 29 MAY 81. THE PROPOSAL EVALUATION TEAM IS IN THE PROCESS OF BEING FORMED.	110.0	17.0	56.5	MAR 81	AUG 81

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CY B1 RCS ORCMT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 79 6350 2423	KNURL INSPECTION ON 155 MM M549 RAP IT HAS BEEN ESTABLISHED THAT THE NEW KNURL DESIGN WILL NOT BE USED ON M549. HOWEVER, IF THIS EFFORT IS SUCCESSFUL IN INSPECTING THE NEW KNURL SAMPLES, QA WOULD TAKE ACTION TO IMPLEMENT THIS TECHNIQUE FOR 8 INCH M650 RAP ROUND.	93.0	93.0			AUG 81
M 79 6350 2424	AUTOMATIC GEAR TOOTH CONTOUR INSPECTION SYSTEM THE CONTRACT NEGOTIATIONS ARE NEARING COMPLETION. THE CONTRACT IS SCHEDULED TO BE AWARDED 5 JUNE 1981.	98.0			MAY 81	MAY 82
M 79 6350 2425	OPTICAL TESTING OF FAR INFRARED MATERIALS THE GERMANIUM SAMPLES WERE ANALYZED. MOST OF THE INTERFEROGRAMS INDICATED TWO SETS OF FRINGES. THE FIRST SET WAS CAUSED BY THE SAMPLE'S WEDGE ANGLE BETWEEN FRONT + BACK SURFACE. THE SECOND SET WAS CAUSED BY THE HOMOGENEITY OF BULK MATERIALS.	85.0		77.0	SEP 80	MAR 82
M 79 6350 2426	CRYOGENIC COOLER HELIUM LEAK RATE TEST SET A TEST WAS PERFORMED TO DETERMINE ALLOWABLE LEAKAGE AND TEST APPROACH. FABRICATION OF DETAIL PARTS HAS STARTED AND IS BEHIND SCHEDULE. FABRICATION OF DETAILS TO BE FINISHED AND OEMO BY JUNE 81.	120.0	93.0		DEC 80	JUN 81
M 79 6350 2428	TWO CHANNEL TELEMETER FOR 3-INCH SPIN AIR GUN DURING IMPLEMENTATION THE TWO CHANNEL WAS TESTED ON P416 PWR SUPPLY AND THE M735 FUZE. THE NEW TELEMETER IS DESIGNED TO MEET NEW AND EXISTING REQUIREMENTS NECESSARY TO TEST THE POWER SUPPLIES FROM THE PRODUCTION OF THE T361.	60.0		60.0	MAY 80	SEP 81
M 79 6350 2430	ACCEPT TESTER FOR COMMON MODULE SCANNER PERFORMANCE THIS TASK HAS BEEN COMPLETED. THE EQUIPMENT WAS DELIVERED MARCH 5, 1981. THE FINAL TECHNICAL REPORT WILL BE COMPLETED IN AUG 1981. EFFORTS ARE BEING MADE TO ACQUIRE FUNDS FOR IMPLEMENTATION.	100.0	80.0	20.0	SEP 80	AUG 81
M 79 6350 2431	COMPUTERIZED COLOR MATCHING SYSTEM THE RFP WAS ISSUED ON MAY 1, 1981 WITH OFFERS DUE BY MAY 26, 1981. THE DUE DATE HAS SINCE BEEN AMENDED TO JUNE 9, 1981, AT THE REQUEST OF ONE POTENTIAL BIDDER. THE CONTRACT IS EXPECTED TO BE AWARDED BY AUGUST 1981, WITH DELIVERY OF THE SYS BY FEB. 1982.	605.6	41.0	333.9		DEC 82
M 79 6350 2433	POWER SUPPLY TEST CONSOLE FOR 2ND GEN IMAGE INTENSIFIER THE COMPUTER SYS + ENVIRONMENTAL CHAMBER HAS BEEN DELIVERED. THE HIGH VOLTAGE ROTARY SWITCH UNIT SELECTOR + SIG CONDITIONING CIRCUITS HAVE BEEN DESIGNED. PROGRAMS HAVE BEEN WRITTEN. A DETAILED TEST SEG LIST FOR 3RD GEN 18MM PWR SUPPLIES IS COMPLETED.	198.0		14.5	FEB 80	OCT 81

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 79 6350 2434	RAPID NOT FOR DOPANT DENSITY AND DISTRIBUTION THE DOPANT CONCENTRATION MEASUREMENT SET-UP WAS USED TO PERFORM TEST TO CHARACTERIZE TEST REPEATABILITY AND ACCURACY. A PROGRAM WAS WRITTEN TO STORE FLUORESCENT DECAY WAVEFORMS FOR RATING.	19.0		19.0	MAY 81	SEP 81
M 79 6350 2444	ULTRASONIC TESTING OF ROADWHEELS THE PIGGYBACK TESTING OF 18 ULTRASONICALLY INSPECTED ROADWHEELS WAS COMPLETED IN EARLY MAY. NONE OF THESE ROADWHEELS FAILED THE 1000 MILE ROAD TEST. ARRANGEMENTS HAVE BEEN MADE FOR A SECOND PIGGYBACK TEST VEHICLE TO CONTINUE TESTING ROADWHEELS.	55.0	41.5		SEP 80	JUL 81
M 79 6350 2445	ULTRASONIC TIRE INSPECTION THE CALIBRATION MANUAL FOR THE MODIFIED TDM, WHICH WILL BE USED AT THE DEPOTS UNTIL A MICROPROCESSOR BASED TIRE TESTER IS AVAILABLE, WAS REVIEWED AND APPROVED.	85.0	57.3	0.2	DEC 80	AUG 81
M 79 6350 2446	BLACKLIGHT TV SYSTEM THE SCOPE OF WORK HAS BEEN COMPLETED TO CONSTRUCT A BLACK LIGHT TV INSPECTION SYSTEM.	13.5		5.0	AUG 80	DEC 82
M 79 6350 2447	AEROSOL TEST APPARATUS FOR BIOLOGICAL DETECT + WARNING A PROCUREMENT PKG WAS PREPARED + FORWARDED TO PROSPECTIVE BIDDERS. A TECHNICAL TEAM WAS ASSEMBLED TO EVALUATE REC'D PROPOSALS. THE PROPOSAL SUBMITTED BY GE WAS JUDGED SUPERIOR TO THE OTHERS, HOWEVER, THE COST EXCEEDED THE ORIGINAL GOV'T ESTIMATE.	130.0	100.0		NOV 80	AUG 81
M 79 6350 2448	IMPROVED GB SIMULANT THE PRELIMINARY SIMULANT-GB CORRELATION IN WHICH GB ADSORPTION WAS MATHEMATICALLY MODELED + CANDIDATE GB SIMULANTS WERE SELECTED. THESE SIMULANT CANDIDATES ARE- ETHYL PROPIONATE, ISOPROPYL ACETATE, BROMOBUTANE + 4-HYDROXY-4-METHYL-2-PENTANONE.	121.0	81.0	14.8	DEC 80	DEC 81
M 79 6350 2451	GUN TUBE ROUNNESS MEASUREMENT THE GAGE HEAD WAS DELIVERED, INSPECTED + ACCEPTED. THE DELIVERY OF THE ELECTRONIC SYSTEM, LVDT CARTRIDGES + AMPLIFIERS ARE SCHEDULED FOR DELIVERY IN JUNE 1981.	65.0	15.1	34.0	SEP 80	SEP 81
M 79 6350 2453	THICKNESS MEASUREMENT OF NON-MAGNETIC COATINGS THE CONTRACTOR REQUESTED A 3 MO EXTENSION. THIS REQUEST IS DUE TO A DELAY IN THE DELIVERY OF 1000 FT. OF SHIELDED FOUR CONDUCTOR CABLE WITH SPECIALIZED PERFORMANCE CHARACTERISTICS. THE DELIVERY OF THIS MATL IS SCHEDULED FOR MAY 1981.	80.0		17.4	DEC 80	SEP 81
M 79 6350 2455	QUENCH CRACK DETECTION THE CONTRACT TO CONSTRUCT THE QUENCH SYSTEM WAS AWARDED. THIS SYSTEM WILL CONSIST OF A SELF-PROPELLED INSPECTION SYSTEM CAPABLE OF INSPECTING BOTH THE 105MM + 155MM GUN TUBE FORGINGS. THE SYSTEM IS SCHEDULED FOR DELIVERY IN AUGUST 1981.	125.0	67.0	31.6	DEC 80	JUN 82

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MANUFACTURING METHODS AND TECHNOLOGY PROGRAM

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 80 6350	MATERIALS TESTING TECHNOLOGY SEE SUBTASKS BELOW FOR PROJECT STATUS.	4,404.0	1,714.4	2,689.6	APR 83	OCT 82
M 80 6350 2014	PORTABLE NEUTRON RADIOGRAPHY SYS - ENGR MODEL THE SCHEDULED FIELD EVALUATION HAS BEEN DELAYED. THIS DELAY IS DUE TO YUMA PROVING GROUNDS REQUEST FOR AN ENVIRONMENTAL ASSESSMENT AND THE CONTRACTOR REQUEST FOR ADDITIONAL FUNDS. INSTEAD THE AIR FORCE EVALUATION OF SYSTEM STARTED MAY 1981.	837.6	787.6			JAN 82
M 80 6350 2205	HOLOGRAPHIC INSPECTION OF ROTARY FORGED PREFORMS THE CONTRACT WAS NEGOTIATED AND AWARDED. A 12-MONTH DELIVERY IS ANTICIPATED.	105.0		4.3		AUG 82
M 80 6350 2405	BURN TIME TEST FOR ZIRCONIUM POWDER IN THERMAL BATTERY A SYS DESIGNED TO MAKE BURN TIME MEASUREMENTS ON A SHORT POWDER TRAIN HAS BEEN CONSTRUCTED. WORK IS CONTINUING TO CONNECT THE SYSTEM TO A HIGH SPEED RECORDING APPARATUS. A SHORT POWDER TRAIN IS DESIRABLE- LESS POWDER IS REQ, GTR DENSITY UNIFORMITY.	70.0	17.0			AUG 81
M 80 6350 2407	LIQUID CHROMATOGRAPHY FOR EPOXY RESIN FORMULATION RECENT ADVANCES IN LC TECHNOLOGY WERE EVALUATED FOR IDENTIFYING AND MONITORING EPOXY RESINS. SPECIAL STOP-FLOW LC TECHNIQUES WERE DEVELOPED FOR SCANNING THE UV-VISIBLE SPECTRA OF EPOXY RESIN COMPONENTS.	55.0		55.0		MAY 81
M 80 6350 2417	COPPER HEAD CRITICAL FLAW DETECT OF COMPLEX COMPONENTS PHASE 1 CONTRACT WAS AWARDED NOV 80. THE EDDY CURRENT INSTRUMENTATION IS BEING EVALUATED, LAYOUT DESIGNS OF DEFECTS HAVE BEEN INITIATED. ALSO, SEVERAL PROBES ARE BEING EVALUATED + CONTROL HOUSING + PLATE DEFECT ARE BEING CODED.	182.3		58.6		JAN 82
M 80 6350 2418	HALF LIFE OF TRITIUM LAMPS PHASE 1 ? 2 OF THIS EFFORT HAVE BEEN COMPLETED. THE REMAINING EFFORT WHICH INCLUDES IN-HOUSE MONITORING OF LAMPS, DATA REDUCTION ? ANALYSIS, GENERATION OF ACCEPTANCE METHOD AND CRITERIA IS UNDERWAY. SEE PROJECT NO M 81 6350-2418 FOR STATUS.	60.0		55.4		JUN 81
M 80 6350 2419	DEVELOPMENT OF INFRARED AND OPTICAL TESTS SEE PROJECT M 81 6350-2419 FOR STATUS.	140.0	109.0	10.2		MAR 82
M 80 6350 2422	INSPECT/MEAS METHOD FOR SPHERICAL SURFACED COMPONENTS NO PROGRESS WAS REPORTED FOR THIS REPORTING PERIOD.	150.0	145.0			AUG 82
M 80 6350 2437	DIMENSIONAL INSPECTION FOR PRECISION ELECTROMAGNETIC COMP THE TECHNICAL WORK HAS BEEN COMPLETED. THE OPERATING MANUAL HAS BEEN COMPLETED. IMPLEMENTATION ACTION HAS BEEN INITIATED TO TRANSFER THE TEST APPARATUS TO RAYTHEON'S PATRIOT PRODUCTION LINE. THE TECHNICAL REPORT IS READY FOR PUBLICATION.					AUG 81



MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)		
M 80 6350 2447	AEROSOL TEST APPARATUS FOR BIOLOGICAL DETECTOR + WARNING SYS THE CONTRACT WAS AWARDED TO GE IN MARCH 80 + DESIGN STUDY PHASE COMPLETED IN JULY. THE CONTRACT WAS RESTRUCTURED TO ALLOW COMPLETION OF THE TEST DETERMINATION PHASE PRIOR TO TDP DEVELOPMENT AND PROTOTYPE CONSTRUCTION.	275.0	248.0			AUG 81
M 80 6350 2450	GUN STEEL ADHESION CHROMIUM COATING MEASUREMENT THE SYS WAS DELIVERED ON 30 DEC 1980. IT HAS NOT FUNCTIONED CORRECTLY FOR THE DESIRED ROTATIONAL SPEED (RPM). THE SYS WAS RETURNED TO THE CONTRACTOR. THE SYS IS SCHEDULED TO BE REPAIRED AND RETURNED BY JUN 1981.	23.9	19.4	4.5		FEB 82
M 80 6350 2450	GUN STEEL ADHESION CHROMIUM COATING MEASUREMENT SPIN ROTOR SAMPLES MACHINED FROM CHROMIUM PLATED GUN STEEL AND SUPERALLOY SUBSTRATES HAVE BEEN PREPARED FOR ADHESION TESTING.	60.0		23.9		FEB 82
M 80 6350 2603	PROVIDE AUTO SPHERICITY INTERFEROMETER F/TEST LENS SURFACES A ZYGO MARK II INTERFEROMETRIC SYSTEM WAS DELIVERED TO ARRADCOM. THIS EQUIP PROVIDES ARRADCOM WITH THE CAPABILITY TO PERFORM SPECIALIZED OPERATIONS IN THE FIELD OF OPTICAL TESTING + VERIFICATION.	181.0	96.3	38.6	APR 82	APR 82
M 80 6350 2610	IMPROVED METHOD FOR DETERMINATION OF PURITY OF DYES AFTER SURVEY OF METHODS DIFFERENTIAL, SCANNING CALORIMETRY (DCS) WAS FOUND TO BE APPLICABLE TO BENZANTHRONE, DISPERSE RED 9, AND SOLVENT GREEN 3. DATA WAS COMPILED AND A FINAL REPORT WAS SUBMITTED FOR PUBLICATION.	14.0		14.0	MAY 81	JUN 81
M 80 6350 2611	SORPTION OF AGENTS ON ASC WHETLERITE SURFACE AREA ANALYSIS METHODOLOGY HAS BEEN DEVELOPED FOR WHETLERITE. ALSO, A TGA METHOD HAS BEEN DEVELOPED FOR MEASURING THE UPTAKE OF DMMP SIMULANT BY WHETLERITE. IN ADDITION, A SAFETY SOP WAS WRITTEN, TO ALLOW TESTING WITH TOXIC AGENTS.	37.0				SEP 81
M 80 6350 2612	AUTO PROCEDURE FOR THE EVALUATION OF CHARCOAL GAS-LIVES ALL OF THE DESIGN FUNDAMENTALS USED IN FABRICATION OF THE MULTIPLE CHARCOAL TUBE TESTER HAVE BEEN DEVELOPED AND A COMPLETE SET OF ENG. DWG. WAS COMPILED AND IS PRESENTLY BEING USED TO IN-HOUSE FAB + ASSEMBLE THE PROTOTYPE. LACK OF PARTS STOPPED FAB.	60.0	35.0			APR 81
M 80 6350 2613	INFLOW AIR BLEED TEST, LTC-712 ENGINE AN AIR COMPRESSOR CAPABLE OF CAUSING ENGINE STALL HAS BEEN LOCATED AT CCAD. ALL HARDWARE HAS BEEN ORDERED. INITIAL TESTS ARE COMPLETE. RESULTS TO BE USED FOR EVALUATION AT CCAD. RFP HAVE BEEN RELEASED TO PROCURE A SMALL DEDICATED MICROPROCESSOR SYS.	267.0	16.5	25.5		FEB 82



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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 80 6350 2616	AUTOMATED SOFTWARE AIDS FOR TESTING REQUIREMENTS THE INITIAL PROCUREMENT PACKAGE WAS COMPLETED WHICH ESTABLISHES AND MODIFIES THE EXISTING I/O REQ'TS LANGUAGE SYS. THE AUTOMATED SOFTWARE TEST TOOL + TACTICAL SOFTWARE SYS WAS COMPLETED. ANOTHER PKG WAS STARTED TO ENTER RCS TEST PROCEDURE ONTO IORL.	150.0	98.9			NOV 81
M 80 6350 2621	THERMOELECTRIC MATERIALS TEST THE CONCEPTUALIZATION OF THE TEST FIXTURES, ALONG WITH THE ASSOCIATED SOFTWARE HAS BEEN COMPLETED. ALSO THE FABRICATION OF THE TEST FIXTURE WAS INITIATED DURING THIS PERIOD.	95.0	93.5		JUL 81	OCT 81
M 80 6350 2623	NOT MEAS OF GOLD PLATING THICKNESS ON SMALL CYL COMP WIRES IN-HOUSE ITEMS HAVE BEEN USED AS PRELIM TEST SPECIMENS. TESTING USING THESE SPECIMENS AS STOS INDICATES THAT NORMALIZED READINGS FROM GOLD PLATED WIRES AND NORMALIZED FLAT STD ARE DIRECTLY RELATED. NOTE, THE EXACT RELATIONSHIP HAS NOT BEEN COMPUTED.	117.0				FEB 82
M 80 6350 2624	AUTO ANALYSIS OF PCB PLATING SOLUTION STRENGTH THE PROTOTYPE SYSTEM HAS BEEN COMPLETED. SMALLER VOLUMES OF PLATING SOLUTION CAN BE TESTED WITHOUT LOSS OF ACCURACY. THE SYS IS SEMI-AUTOMATED + TAKES ABOUT 2 MINUTES TO COMPLETE A TEST COMPARED TO A LAB TEST THAT REQ A FEW HOURS.	75.0				JUL 81
M 80 6350 2625	HYBRID CIR CHIP SEMICONDUCTOR ELEC TEST + SCREEN PROCEDURE WORK IS UNDERWAY TO DETERMINE THE CURRENT PROBLEM AREAS ASSOCIATED WITH DIRECT CHIP PROBING/TESTING PROCEDURES.	85.0		6.8		JUL 81
M 80 6350 2626	DETERMINATION OF LOW LEVEL CONCENTRATION OF LEAD IN PAINT MODIFIED PARAMETERS WERE USED TO EVALUATE VARIOUS COMMERCIAL POINTS. THE PAINTS WERE ANALYZED FOR THEIR LEAD CONTENT BY EMISSION SPECTROSCOPY AND THE RESULTS OBTAINED COMPARED FAVORABLY TO THOSE OBTAINED BY ATOMIC ABSORPTION.	56.0	1.0	35.1	SEP 81	SEP 81
M 80 6350 2628	STANDARD CONTAMINANT FOR TEST FUELS THE LITERATURE SEARCH WAS COMPLETED. THIS REVIEW INDICATED THAT VERY LITTLE WORK HAD BEEN DONE IN THE DEVELOPMENT OF FUEL CONTAMINANTS FOR USE IN VEHICLE FUEL SYSTEM TESTING. A FEW POSSIBLE CANDIDATE MATERIALS HAVE BEEN SELECTED FOR PRELIMINARY WORK.	30.3		3.7	AUG 81	SEP 81
M 80 6350 2629	GUN TUBE REMOTE VISUAL INSPECTION THE CONTRACT HAS BEEN NEGOTIATED BY PROCUREMENT AND IS BEING AWARDED. A 12-MONTH DELIVERY SCHEDULE IS ANTICIPATED.	79.0		0.6		DEC 82
M 80 6350 2630	CRITICAL ULTRASONIC INSPECTION PROBLEMS WITHIN THE ARMY THIS EFFORT HAS MULTI-TASKS. THESE TASKS ARE- TRANSDUCER EVALUATION, SYS ASSEMBLY + TEST, SHELL BODY ACQUISITION + INSTR MOD. THE MTMIS DATA BASE DOES NOT HAVE THE CAPABILITY TO REPORT ON SUB-SUBTASKS.	195.0		98.0	JAN 81	OCT 81

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S U M M A R Y P R O J E C T S T A T U S R E P O R T  
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M BO 6350 2631	CRITICAL ELECTROMAGNETIC INSP PROBLEMS WITHIN THE ARMY SEE PROJECT M B1 6350-2631 FOR STATUS.	100.0	25.0	27.0		OCT 81
M BO 6350 2639	ROADWHEEL SEAL TEST MACHINE THE BASIC DESIGN WORK HAS BEEN COMPLETED. VEHICLE COMPONENTS WHICH ARE REQUIRED FOR TEST SET-UP HAVE BEEN ORDERED.	165.0		27.7	JUN 82	DEC 82
M BO 6350 2640	TRACK TEST MACHINE THE CONCEPT PHASE HAS BEEN COMPLETED. WORK IS UNDERWAY ON THE DETAIL DESIGN.	275.0		77.3	SEP 82	APR 83
M BO 6350 2641	MECHANICALLY INDUCED CRACKS FOR NDT STANDARDS CYLINDRICAL STEEL BILLETS WERE SLOTTED USING EDM TECHNIQUES. DUPLICATED SLITS, AT THREE DIFFERENT DEPTHS, WERE LOCATED ON THE CIRCUMFERENTIAL SURFACE ALONG THE AXIAL, DIAGONAL(45 DEG), AND TRANSVERSE DIRECTIONS. THE SLITS WERE MECHANICALLY CLOSED.	60.0		35.0	OCT 81	SEP 81
M BO 6350 2642	ADVANCED PENETRATING RADIATION TECH F/PRODUCT EVALUATION SEE PROJECT M B1 6350-2642 FOR STATUS.	180.0	5.7	106.3	SEP 80	SEP 81
M BO 6350 2643	IN-PROCESS DIM INSP ROTARY FORGED CANNON TUBES THE TECHNICAL PROPOSALS ARE BEING EVALUATED. THE CONTRACT AWARD IS SCHEDULED FOR JULY 1981.	110.0		12.4		NOV 82
M BO 6350 2643	IN-PROCESS DIM INSP ROTARY FORGED CANNON TUBES TECHNICAL PROPOSALS ARE BEING EVALUATED. PROCUREMENT APPROACH IS A TWO-STEP PROCESS WITH BIDS EXPECTED IN LATE JUNE AND AWARD BY MID-JULY.	110.0		12.4		NOV 82
M BO 6350 2646	PISTON ACTUATOR TEST ALL PHASE 1 + 2 HAVE BEEN COMPLETED. PROTOTYPE ASSEMBLY OF THE FINAL SYSTEM IS WAITING ON THE SIGNAL PROCESSING SYSTEM DUE IN 45 DAYS. THE REMAINING PHASE 3 TASK E.G. DEBUGGING, CALIBRATION ETC. WILL NOT BE ACCOMPLISHED UNTIL PROTOTYPE IS COMPLETED.	85.0		50.7		SEP 81
M BO 6350 2948	IMPROVED CHARCOAL EVALUATION METHODOLOGY A CONTRACT WAS LET TO EVALUATE CURRENT TEST METHODOLOGY, APPLY THEORETICAL + EMPIRICAL RELATIONSHIPS FOR FIXED BED ADSORPTION TO IMPROVE TEST CONCEPTS, + SPECIFY THE BEST METHODOLOGY FOR AN ACCURATE + PRECISE CHARCOAL PERFORMANCE TEST.	29.0		29.0		SEP 81
M B1 6350	MMT MATERIALS TESTING TECHNOLOGY SEE SUBTASKS BELOW FOR PROJECT STATUS.	4,101.1	1,722.0	2,309.6	OCT 83	OCT 83
M B1 6350 1638	TORSION BAR ULTRASOUND INSPECTION THE EFFORT HAS BEEN SUSPENDED. ALL SIX OF THE TORSION BARS FAILED TO MEET THE ROCKWELL HARDNESS LEVEL. THE FATIGUE TESTING WILL RESUME AFTER REHEAT-TREATMENT AND REPROCESSING IS PERFORMED IN ACCORDANCE WITH MIL-S-45387.	66.7		26.0		MAR 82

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M 81 6350 1802	M732 FIELD ARTILLERY FUZE/S+A TRANSPORTATION VIBRATION TEST FUNDS RECEIVED AND WORK HAS COMMENCED. THE HDL REPORT IS BEING REVIEWED TO SELECTIVELY UTILIZE RESULTS. DETAILED STUDY PARTS AND DIMENSIONS TO AID IN QUANTIFYING DAMAGE EQUIVALENCY + SPECIFIC MODULE ORIENTATION FOR TEST ETC. IS CURRENTLY BEING DONE.	85.2		1.0		AUG 81
M 81 6350 2245	CERAMIC MATL NOT EVALUATION TECHNIQUES SPECIFIC TEST TECHNIQUES, WITHIN THE STATE OF THE ART, OR AS DEMONSTRATED AS FEASIBLE ARE BEING INSTRUMENTED. ULTRASONIC AND MICRO FOCUS RADIOGRAPHIC TECHNIQUES ARE BEING APPLIED TO SELECTED MATERIALS.	120.0		13.5		MAR 82
M 81 6350 2407	LIQUID CHROMATOGRAPHY FOR EPOXY RESIN FORMULATION NO FURTHER DEVELOPMENTAL WORK HAS BEEN ACCOMPLISHED ON THIS PROJECT. HOWEVER, THE LC TECHNIQUES DEVELOPED AS A RESULT OF THIS PROJECT HAVE BEEN IMPLEMENTED FOR THESE APPLICATIONS- NAVAIR CH-46 + THE ARM'S CH-47 AND AH1Q KAMAN ROTOR BLADES.	40.0	6.0			MAR 82
M 81 6350 2418	HALF LIFE OF TRITIUM LAMPS ARRADCOM IS CURRENTLY MONITORING THE BRIGHTNESS BEHAVIOR. EQUIP WAS RECEIVED THAT WILL SUPPORT THE TEST MEASUREMENT PROGRAM. PRELIMINARY ANALYSIS INDICATED THAT THE CONTRACTOR PRODUCED GOOD LAMPS, NO EVIDENCE OF ACCELERATED DECAY AFTER 6 MONTHS.	65.0				JAN 82
M 81 6350 2419	DEVELOPMENT OF INFRARED AND OPTICAL TESTS A 'TROPEL' MOD2000 OPTICAL TRANSFER SYS HAS BEEN PURCHASED UNDER CONTRACT DAK-10-B1-C-000 + DELIVERED TO ORDAR-QAF FIRE CONTROL LABORATORY DURING MAY 1980.	80.0				MAR 82
M 81 6350 2440	GAS-LIQUID CHROMATOGRAPHIC TESTING OF NC BASED PROP NO PROGRESS HAS BEEN ACCOMPLISHED DUE TO FUNDING DELAY.				OCT 82	OCT 82
M 81 6350 2447	AEROSOL TEST APPARATUS FOR BIOLOGICAL DETECTOR + WARNING SYS THE GE, SPACE SCIENCE LAB., IS NEARING COMPLETION OF THIS CONTRACT. PA DIRECTORATE AND THE CHEMICAL SYS LAB WITNESSED ACCEPTANCE TESTING OF THE GENERATOR DURING MARCH 81. EFFORTS TOWARD DEVELOPING LEVEL II DRAWINGS WERE INITIATED.	50.0				AUG 81
M 81 6350 2603	PROVIDE AUTO SPHERICITY INTERFEROMETER F/TEST LENS SURFACES A STUDY WAS INITIATED TO DETERMINE AREAS OF DESIRED TESTING CAPABILITIES AND INSTRUMENTATION.	110.0				APR 82
M 81 6350 2631	CRITICAL ELECTROMAGNETIC INSP PROBLEMS WITHIN THE ARMY THIS EFFORT HAS MULTI-TASKS. THESE TASKS ARE- CARBURIZED GEAR CASE DEPTH, RESIDUAL + NEAR SURFACE STRESSES, MULTIFREQUENCY EDDY CURRENT INSPECTION TECQ. THE MTMIS DATA BASE DOES NOT MAINTAIN DATA ON SUB-SUB-TASKS.	67.0	7.0			OCT 82

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M 81 6350 2642	ADVANCED PENETRATING RADIATION TECH F/PRODUCT EVALUATION A NUMBER OF FORMER MIT TASK HAVE BEEN COMBINED TO FORM THIS EFFORT. THESE TASKS ARE HIGH-RESOLUTION RADIOGRAPHY, NEUTRON RADIOGRAPHY, RADIOMETRY, RADIOGRAPHIC QUALIFICATION. THE MITIS DATA BASE DOES NOT MAINTAIN DATA ON SUB-SUBTASKS.	73.0				SEP 81
M 81 6350 2804	BINARY MUNITIONS MECHANICAL RUPTURE PROPERTIES TEST ALL PERTINENT BACKGROUND INFORMATION HAS BEEN REVIEWED AND INCORPORATED INTO A SCOPE OF WORK FOR THE CONTRACTUAL EFFORTS.	125.0				NOV 82
M 81 6350 2808	ADVANCED NOT OF REINFORCED PLASTIC COMPOSITES-SPAR + BEAM FILAMENT WOUND FIBERGLASS/EPOXY BOX BEAM SPECIMENS HAVE BEEN FABRICATED. ALSO A COMBINED TENSION-TORSION FATIGUE TEST FIXTURE TO SIMULATE ROTOR BLADE LOADS HAS BEEN BUILT. A DUAL TRANSOUCCER HOLDER WITH SCREW ADJUSTMENT HAS BEEN ACQUIRED.	100.0		20.0		MAR 82
M 81 6350 2815	CANNON TUBE AUTOMATED CHROME PLATE THICKNESS MEASUREMENT PROJECT JUST FUNDED NO WORK HAS BEEN ACCOMPLISHED.	70.0			OCT 82	OCT 82
M 81 6350 2825	ORAGON PROPELLANT BALLISTIC MODIFIERS IMPROVED TEST METH THE FUNOS. FOR THIS EFFORT WERE JUST RELEASED.	70.0			AUG 82	AUG 82
M 81 6350 2827	N-HEXYLCARBORANE CAPILLARY GAS CHROMATOGRAPHIC ANALYSIS THE FUNOS FOR THIS EFFORT WERE JUST RELEASED.	90.0			AUG 82	AUG 82
M 79 6390	PROGRAM IMPLEMENTATION AND INFORMATION TRANSFER ***** DELINQUENT STATUS REPORT *****	262.9	204.3	19.7	JUN 80	OEC 81
M 80 6390	MMT PROGRAM IMPLEMENTATION AND INFORMATION TRANSFER ***** DELINQUENT STATUS REPORT *****	250.0	235.6	4.0	MAR 81	DEC 81
M 81 6390	MMT PROGRAM IMPLEMENTATION AND INFORMATION TRANSFER ***** DELINQUENT STATUS REPORT *****	250.0			MAR 82	MAR 82

RUBBER HANDWARE



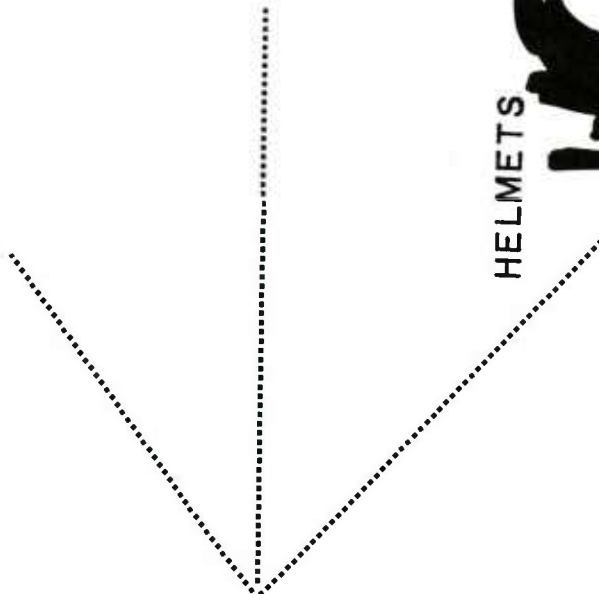
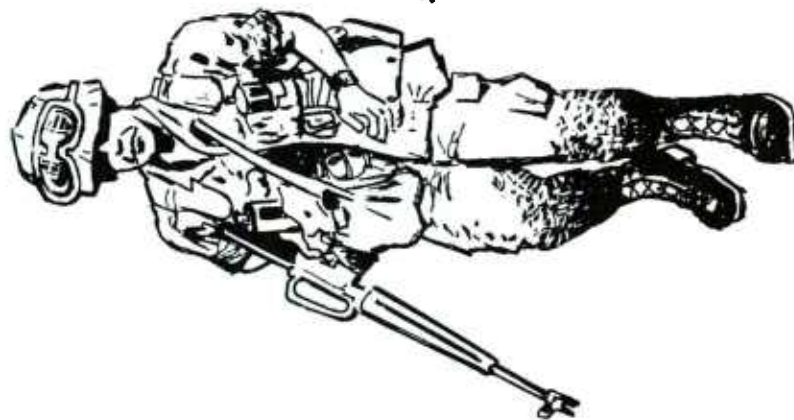
CLOTHING PATTERNS



HELMETS



NATICK R&D LABORATORIES  
(NLABS)



NATICK RESEARCH AND DEVELOPMENT, LABORATORIES

CURRENT FUNDING STATUS, 1ST CY81

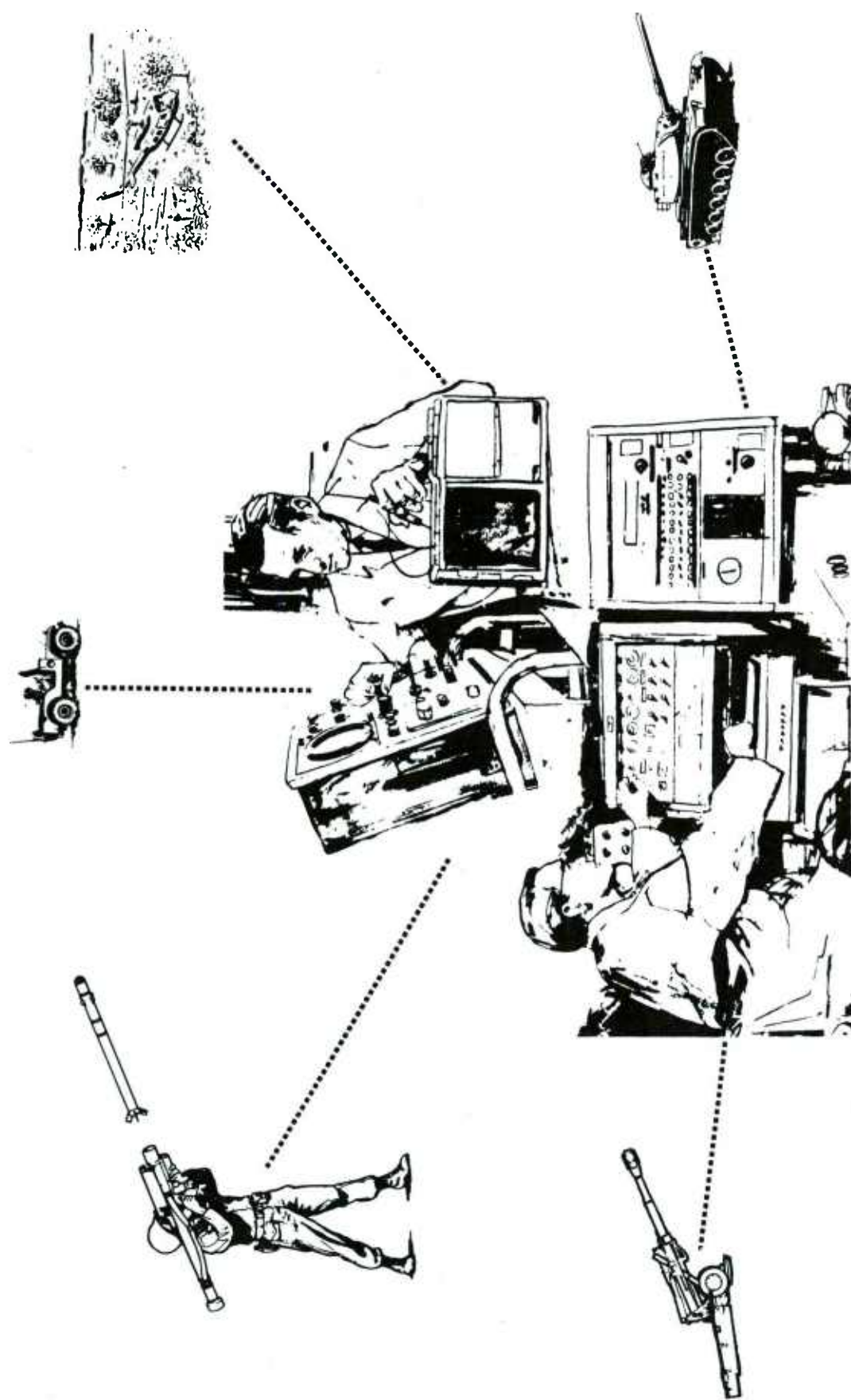
FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* * C O N T R A C T A L L O C A T E D ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )	* * I N H O U S E R E M A I N I N G ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )
77	1	253,500	160,900	160,900 (100%)	92,600	56,600 ( 61%)
78	0	0	0	0 ( 0%)	0	0 ( 0%)
79	1	297,700	297,700	232,300 ( 78%)	0	0 ( 0%)
80	2	85,900	31,100	0 ( 0%)	54,800	7,400 ( 13%)
81	0	0	0	0 ( 0%)	0	0 ( 0%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	4	637,100	489,700	393,200 ( 80%)	147,400	64,000 ( 43%)
AUTHORIZED FUNDING			CONTRACT ALLOCATED 77%		INHOUSE REMAINING 23%	



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Q 77 8053	CADAM OF PARACHUTE HARDWARE EXPERIMENTATION WITH THE CAD/CAM SOFTWARE WAS DELAYED DUE TO COMPATIBILITY PROBLEMS BETWEEN THE CONTRACT DEVELOPED SOFTWARE AND NLABS EQUIPMENT AND A SHORTAGE OF COMPUTER PERSONNEL AT NLABS. WORK WILL RESUME IN 4Q81.	253.5	160.9	56.6	MAR 78	JUN 82
Q 80 8063	IMPROVED METHODS OF MFG OF BUTYL RUBBER HANDWEAR THE CONTRACTOR'S BUTYL RUBBER PASSED THE GB AND HD MIL-G-43976 PERMEATION INITIAL TRIALS CONDUCTED BY SRI. CSL HAS BEEN CLEARED BY THE DARCOM SAFETY OFFICE, AND HAS BEGUN TESTING.	47.5			JUN 82	JUN 82
Q 79 8066	CONTINUOUS FILAMENT HELMET PREFORM THE CONTRACTOR (BRUNSWICK) FORWARDED 36 HELMETS TO BE BALLISTICALLY CHECKED AND ANALYZED.	297.7	297.7		MAR 81	DEC 81
Q 80 8066	CONTINUOUS FILAMENT HELMET PREFORM THE 36 HELMETS RECEIVED FROM CONTRACTOR (BRUNSWICK) WERE FORWARDED TO THE NAVAL RESEARCH LABS FOR FIRING TESTS. CASUALTY REDUCTION IS NOW BEING DETERMINED.	38.4	31.1	7.4		DEC 81





**TEST AND EVALUATION COMMAND  
(TECOM)**

# T E S T A N O E V A L U A T I O N C O M M A N D

## CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNOS ( \$ )	* * C O N T R A C T A L L O C A T E D ( \$ )	* * F U N O I N G E X P E N D E D ( \$ )	* * I N H O U S E R E M A I N I N G ( \$ )	* * F U N O I N G E X P E N D E D ( \$ )
79	1	881,000	56,900	56,900 (100%)	824,100	659,900 ( 80%)
80	1	822,000	148,200	142,500 ( 96%)	673,800	517,600 ( 76%)
81	1	750,000	28,500	28,500 (100%)	721,500	160,000 ( 22%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	3	2,453,000	233,600	227,900 ( 97%)	2,219,400	1,337,500 ( 60%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 10% INHOUSE REMAINING 90%

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$DDD)	CONTRACT VALUES (\$DDD)	EXPENDED LABOR AND MATERIAL (\$DDD)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
D 79 5071	TECOM TEST METHODOLOGY ENGINEERING MEASURES SEE SUBTASKS BELOW FOR PROJECT STATUS.	B81.D	56.9	659.9	SEP 80	DEC 81
D 79 5071 36	IN-BORE RADIOGRAPHY TECHNIQUE APPLICATION WORK HAS BEEN DONE TO EQUIP THE TWO BOMBPROOFS REQUIRED BY MFG. THE BOMBPROOFS AND THE X-RAY TRIGGER ARE NOW READY FOR TRIAL TESTING WHICH WILL BE ACCOMPLISHED WHEN AN APPROPRIATE FIRING PROGRAM BECOMES AVAILABLE.					DEC 81
D 79 5071 37	MILITARY VEHICLE ROLL OVER TESTS PHASE II PROCUREMENT ACTION WAS COMPLETED INCLUDING THE CONTRACT AWARD IN DEC 1980. THE CONTRACTOR HAS DEVELOPED A FIELD TEST PLAN AND MILESTONE SCHEDULE. THE DESIGN OF A ROLL-OVER INDICATOR IS UNDERWAY.					DEC 81
O 79 5071 42	IMPROVED CRUSHER GAGES A PROTOTYPE GAGE WAS BUILT. THE PROTOTYPE WAS TESTED UNDER LABORATORY CONDITIONS WITH FAVORABLE RESULTS. DURING FIRING TEST, THE GAGE EXPERIENCED BLOW-BY. MODIFICATIONS WERE MADE TO CORRECT THE BLOW-BY PROBLEM.					DEC 81
D 79 5071 45	AEROSOL BIOLOGICAL PARTICLE SIZE MEAS. STANDARDIZATION THE NEW AEROSOL FACILITY WAS COMPLETED. LACK OF FUNDING IS DELAYING THE COMPLETION OF THIS WORK.					DEC 81
D 79 5071 46	FERMENTATION METHODOLOGY PROJECT SUSPENDED PENDING FUNDING GUIDANCE.					DEC 81
D 79 5071 47	AVIRULENT VEE VIRUS STRAIN STANDARDIZATION PROJECT SUSPENDED DUE TO LACK OF FUNDS.					DEC 81
D 79 5071 50	TOXIC GAS MEASUREMENTS DURING WEAPON FIRINGS AN M6DA3 HAS BEEN INSTRUMENTED FOR THIS TEST AND AMMUNITION HAS BEEN OBTAINED. THE GAS MEASURING + RECORDING EQUIPMENT REQ FOR THIS TASK HAS EITHER BEEN UNDER REPAIR OR INVOLVED ON HIGHER PRIORITY PROGRAMS. TESTING IS SCHEDULED FOR AUG 1981.				SEP 80	DEC 81
D 79 5071 51	SAFETY EVALUATION OF AMMUNITION TASK WAS COMPLETED AND THE FINAL REPORT IS BEING WRITTEN.					DEC 81
D 79 5071 53	CERTIFICATION OF LOOSE CARGO BOUNCE TEST THE CONTRACTOR COMPLETED THE TESTS APRIL 1981 AND THE FINAL REPORT IS IN THE PROCESS OF BEING WRITTEN.					DEC 81
D 79 5071 54	ON-LINE SEMI CONDUCTOR TESTING IN NUCLEAR ENVIRONMENT THE DEBUGGING OF THE SOFTWARE PROGRAMS AND THE ACTUAL CONDUCT OF THE TESTS TO DETERMINE THE REQ ELECTRICAL PARAMETERS HAS BEEN COMPLETED. THE FINAL REPORT PREPARATION IS IN PROGRESS.					DEC 81

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PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 79 5071 55	FAST BURST REACTOR THIS PROGRAM IS IN SUSPENSION DUE TO LACK OF FUNDING. \$24,000 IS REQUIRED TO COMPLETE THIS PROGRAM.				SEP 80	DEC 81
0 80 5071	PRODUCTION TEST METHODOLOGY SEE SUBTASKS BELOW FOR PROJECT STATUS.	822.0	148.2	517.6	DEC 82	DEC 82
0 80 5071 03	BACKSPALLING CHARACTERISTICS ANOTHER BALLISTIC TEST WAS CONDUCTED ON DUAL HARDNESS STEEL (DHS) ARMOR. PROBLEMS ASSOCIATED WITH BACKSPALL TEST REQ WERE DISCUSSED WITH VARIOUS CONTRACTORS + ARMY PERSONNEL. THE LARGEST EXIT HOLE DIAMETER HAS BEEN USED AS THE BACKSPALL CRITERIA.					DEC 82
0 80 5071 14	SMOKE OBLSCURATION TEST PROCEDURES A PORTION OF THE LITERATURE SEARCH HAS BEEN ACCOMPLISHED. AN OUTLINE OF ADDITIONAL WORK + MINIMUM FACILITIES REQUIRED TO MEASURE SMOKE OBLSCURATION HAS BEEN COMPLETED. THE PRIMARY SUPPORT PERSONNEL WERE DIVERTED TO DIVADS WHICH HAS DELAYED THIS PROGRAM				DEC 82	DEC 82
0 80 5071 32	ELECTROSTATIC GENERATION AND PRECIPITATION A METHOD OF CALIBRATING THE MAN SIZED FARADAY CAGE HAS BEEN ESTABLISHED. THE PHOTOGRAPHIC DOCUMENTATION OF THE EQUIPMENT CONFIGURATION, SCHEDULED FOR JUNE 1981 WILL COMPLETE THE DATA ACQUISITION PHASE OF THIS TASK.					DEC 82
0 80 5071 35	PROJECTILE EDDY CURRENT INSPECTION NO ADDITIONAL WORK HAS BEEN PERFORMED ON THIS PROJECT SINCE THE LAST REPORT.					DEC 82
0 80 5071 43	TEST AUTOMATION DEVELOPMENT SEE PROJECT 0 81 5071-43 FOR STATUS.					DEC 82
0 80 5071 62	DISPERSION DATA FOR AUTOMATIC WEAPONS AT LONG RANGE A LITERATURE SEARCH OF SINGLE BARRELED WEAPONS RESULTED IN SELECTING 3 CANDIDATES- 25MM BUSHMASTER, M24D COAX MACHINEGUN + SQUAD AUTOMATIC WEAPON. A BACKLOG OF HIGHER PRIORITY PROJECTS HAS DELAYED THE COMPLETION OF THIS EFFORT.				DEC 82	DEC 82
0 80 5071 63	BALLISTIC TEST OF HIGH HARDNESS STEEL ARMOR SEVERAL ADDITIONAL BALLISTIC LIMITS WERE DETERMINED TO COMPLETE THE TESTING REQ. THE ROUGH DRAFT OF A FORMAL REPORT HAS BEEN WRITTEN. IT IS EXPECTED THAT THE MINIMUM BALLISTIC LIMIT REQ WILL BE IMPLEMENTED AS AN AMENDMENT TO MIL-A-431DD8.				DEC 82	DEC 82
0 80 5071 64	IMPROVED ENGINE WEAR ANALYSIS OF THE VARIOUS METHODS TESTED TO SEPARATE THE DISSOLVED ORGANOMETALLIC COMPOUNDS FROM SUSPENDED METALLIC PARTICLES IN OILS, SEPARATION BY COLUMN CHROMATOGRAPHY IS THE MOST PROMISING BUT NEEDS FURTHER DEVELOPMENT.				DEC 82	DEC 82

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D 80 5071 65	PRODUCTION/STANDARDIZATION OF COXIELLA BURNETTII SLURRIES PROCEDURES WERE ESTABLISHED FOR THE PRODUCTION OF SLURRIES OF THIS RICKETTSIA IN EMBRYONATED EGGS, + POOLS OF INFECTED YOLK SACS THAT ARE FREE OF BACTERIAL CONTAMINATION HAVE BEEN ACCUMULATED FOR PROCESSING INTO APPROPRIATE SIZED BATCHES OF SLURRY.	(\$DDD)	(\$DDO)	(\$DDD)	DEC 82	DEC 82
O 80 5071 66	CERTIFICATION OF THE DEMILITARIZATION PROTECTIVE ENSEMBLE THE PROJECT HAS BEEN COMPLETED AND THE FINAL REPORT HAS BEEN WRITTEN.				DEC 82	DEC 82
D 80 5071 70	MEASUREMENT OF ARTILLERY PROJECTILE TIME OF FLIGHT TO DATE THE NIKE-HERCULES HAS BEEN CHECKED OUT, AND THE VIDEO SYS OBTAINED. THE RADAR HAS BEEN INSTALLED ON SITE, HOWEVER, BECAUSE OF DELAY IN ON-GOING WORK ON THE GERMAN VILLAGE ARTILLERY RANGE AT DPG NO OTHER WORK HAS BEEN PERFORMED.					DEC 82
D 81 5071	PRODUCTION TEST METHODOLOGY ENGINEERING MEASURES SEE SUBTASKS BELOW FOR PROJECT STATUS.	750.0	28.5	160.0	DEC 83	DEC 83
D 81 5071 01	ACCEPTANCE TEST PROCEDURES A TOTAL OF 147 ATP RECEIVED APPROPRIATE ACTIONS DURING THE REPORTING PERIOD, 14 NEW, 32 REVISED, 101 REVIEWED.				DEC 83	DEC 83
D 81 5071 10	TEST OPERATION PROCEDURES A TOTAL OF 81 TOP ACTIONS WERE TAKEN, 24 COMPLETIONS, 34 WRITTEN, 8 REVISIONS, AND 15 REVIEWED.				DEC 83	DEC 83
D 81 5071 43	TEST AUTOMATION DEVELOPMENT EXTENSIVE WORK HAS BEEN DONE ON DEVELOPMENT OF MAINSITE CONCEPTS AND APPLICATIONS. THIS WORK WILL CULMINATE IN AN OVERALL DEFINITION, DESIGN + IMPLEMENTATION OF AN AUTOMATED TEST SYSTEM CAPABLE OF HANDLING LARGE COMPUTER ORIENTED C3I EQUIPMENT.				DEC 83	DEC 83
D 81 5071 53	CERTIFICATION OF LOOSE CARGO BOUNCE TEST ALL DATA REQUIRED FOR THIS TASK HAVE BEEN COLLECTED AND REDUCED FOR ANALYSIS. THIS ANALYSIS WHICH COMPARES FIELD DATA WITH THE LABORATORY DATA IS BEING CONDUCTED.				DEC 81	DEC 81
D 81 5071 54	ON-LINE SEMI CONDUCTOR TESTING IN NUCLEAR ENVIRONMENT THE DEBUGGING OF THE SOFTWARE AND THE ACTUAL TESTS TO DETERMINE THE REQ ELECTRICAL PARAMETER HAVE BEEN COMPLETED. THE FINAL REPORT IS BEING PREPARED.				DEC 81	DEC 81
D 81 5071 57	GENERAL PURPOSE 8IT SLICE MICRO-COMPUTER AN INTERFACE CPU IS BEING FABRICATED. THE I/O FIRMWARE WAS SPECIFIED TO ENABLE IDENTIFICATION OF SOFTWARE OR HARDWARE PROBLEMS IN PRODUCTION ITEMS TO BE TESTED.				DEC 83	DEC 83

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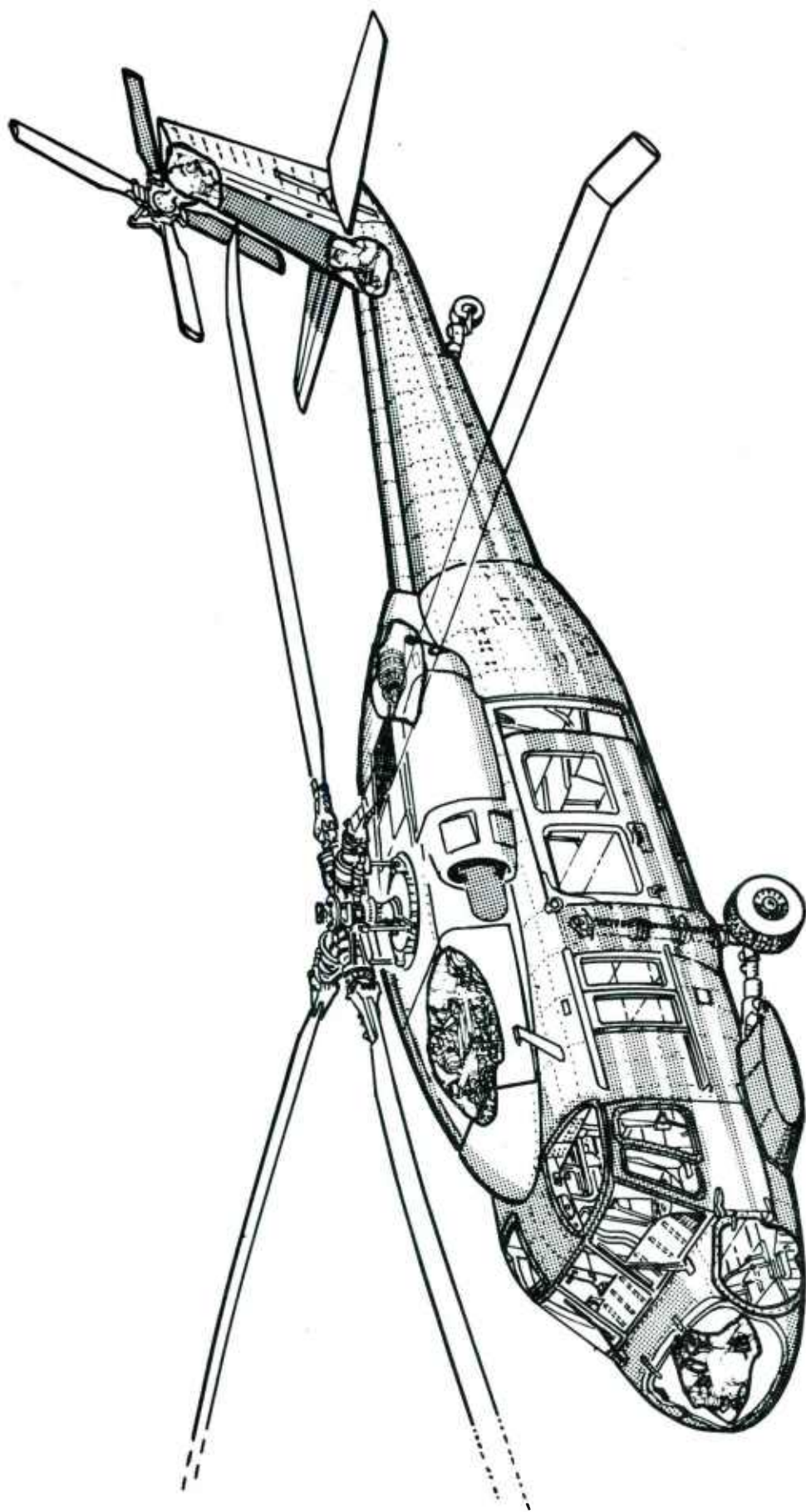
PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 81 5071 58	AIR VELOCITY INFLUENCES ON FUNGAL SPORE GERMINATION THE AIR VELOCITY CHAMBER WAS CONSTRUCTED, TESTED AND PROVEN EFFECTIVE. BASELINE GERMINATION DATA FOR INDIVIDUAL TEST FUNGI HAVE BEEN DETERMINED. THE PERCENT GERMINATION OF ASPERGILLUS NIGER SPORES WHEN EXPOSED TO AIR VELOCITIES (1-3 METERS DETER).				DEC 83	DEC 83
0 81 5071 59	SOLAR POWERED INSTRUMENTATION VAN THE MOTOR CONTROL CARDS HAVE BEEN WIRED + TESTED. THE DISPLAY PANEL HAS BEEN COMPLETED AND TESTED. THE SIGNAL CONDITIONING CARDS ARE BEING WIRED. THE CONVERSION OF THE TEST VAN IS 95% COMPLETE.				DEC 83	DEC 83
0 81 5071 60	RECEIVER OPERATING CHARACTERISTICS MEASUREMENTS THE FIRST PHASE OF THE ROC METHODOLOGY TASK WAS COMPLETED. THE FINAL LITERATURE REVIEW DRAFT REPORT, INTERIM INSTRUMENTATION REQ DRAFT REPORT, INTERIM TEST METHODOLOGY DRAFT REPORTS WERE PREPARED. THIS TASK HAS BEEN SUSPENDED DUE TO LACK OF FUNDS.				DEC 83	DEC 83
0 81 5071 67	INTEROPERABILITY TEST METHODOLOGY THIS WORK WILL BE ACCOMPLISHED UNDER CONTRACT. THE SOW HAS BEEN DEVELOPED. COORDINATION WITH OTHER INTEROPERABILITY RELATED WORKING GROUPS HAS BEEN ESTABLISHED TO DEFINE STATE-OF-THE-ART TESTING CAPABILITIES AND CONCEPTS.				DEC 83	DEC 83
0 81 5071 71	COPPER CRUSHER PRESSURE GAGES THE INTERNAL BALLISTICS DIVISION OF BRL HAS BEEN TASKED TO IDENTIFY THE LOW PRESSURE INACCURACY CAUSES AND RECOMMEND THE RESOLUTION. FINITE ELEMENT ANALYSIS WILL BE USED.				DEC 83	DEC 83
0 81 5071 72	IMPROVED VULNERABILITY TESTING AN IMPROVED INTRA-RANGE COMMUNICATION SYSTEM HAS BEEN DESIGNED. REQ FOR NEW RANGES AND TEST SITE LOCATIONS HAVE BEEN ESTABLISHED + APPROVED. REQ FOR NEW POWER TRANSMISSION LINES, DATA + INTER-RANGE FACILITIES ARE BEING DEFINED.				DEC 83	DEC 83
0 81 5071 73	INTEGRATED TEST DATA ACQUISITION THREE INTEGRATION TEST NETWORKS, EMPLOYING OPTICAL FIBER DATA LINKS HAVE BEEN BUILT. TWO OF THESE SYS HAVE BEEN BENCHMARKED TESTED + HAVE HAD LIMITED FIELD TESTS. A THIRD PROTOTYPE IS BEING PREPARED FOR TESTING.				DEC 83	DEC 83
0 81 5071 74	SMOKE SAMPLING/CHARACTERIZATION DATA WERE COLLECTED FROM 40 WIND TUNNEL TESTS WITH FOG/IR MATERIALS. THE DATA REQ HAVE BEEN COMPLETED. TESTS HAVE BEEN INITIATED TO ELIMINATE THE PROBLEM OF MOUNTED SAMPLER MOVEMENT ON EXPOSURE TO EXPLOSIVE SHOCK OF THE SMOKE ROUND.				DEC 83	DEC 83



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PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
D 81 5071 75	GENERAL SAMPLING TECHNOLOGY THE ENZYMAIC ASSAY PROCEDURE, WHICH HAS THE REQUIRED SENSITIVITY, IS NOT TIME EFFECTIVE ENOUGH FOR PRODUCTION TESTING REQ. DPG IS ADAPTING MODERN/MODIFIED INSTR TO THIS PROCEDURE TO ENABLE ITS EFFECTIVE USE FOR THE TESTING OF PRODUCTION ROUNDS.	(\$000)	(\$000)		DEC 83	DEC 83
D 81 5071 76	GAMMA DOSIMETRY IMPROVEMENT + MODERNIZATION PROGRAM THE MEAS OF GAMMA DOSE IS BEST ACCOMPLISHED BY USE OF CAF2 TLD S. A PROCEDURE FOR ACCEPTANCE TESTING OF A LARGE NUMBER OF CAF2 TLD S. HAS BEEN ESTABLISHED. FOUR NEW PIN DIODES ARE BEING TESTED.				DEC 83	DEC 83
D 81 5071 77	ELECTROMAGNETIC RADIATION EFFECTS/SUSCEPTIBILITY OF ARMY MAT A TECHNIQUE FOR DETECTING 3MA OF CURRENT IN ELECTRO-EXPLOSIVE DEVICES WAS DEVELOPED. THIS TECHNIQUE CONSISTS OF INJECTING A BIAS CURRENT THRU A THERMISTOR. THE CHANGE IN THE VOLTAGE ACROSS THE THERMISTOR, INDIRECTLY CAUSED BY A CHANGE IN CURRENT.				DEC 83	DEC 83
D 81 5071 78	AUTOMATION OF ANALYSIS OF EMI DATA THE FORMAT FOR INPUTTING DATA TO THE DATA BASE HAS BEEN ESTABLISHED. THE TIME + COST EST OF FREQ ALLOCATION FILE DATA HAS BEEN DETERMINED. THE FEASIBILITY + COST OF USING DATA TAPE VS. TELEPHONE COMPUTER INPUT HAS BEEN ESTABLISHED.				DEC 83	DEC 83
D 81 5071 79	ENVIRONMENTAL ISSUES GUIDE FOR HUMID TROPIC TESTING THE BASIC MATRIX FOR THE ENVIRONMENTAL ISSUED GUIDE HAS BEEN ESTABLISHED AND HAS BEEN COORDINATED WITH THE US ARMY ENGINEERS TOPOGRAPHIC LABORATORY. THE ORIENTATION OF THIS PROJECT AGREES WITH THE APPROACH FOR MILITARY HANDBOOK XXX.				DEC 83	DEC 83
D 81 5071 80	COMPUTER AIDED TEST PLANNING INITIAL DRAFTS HAVE BEEN COMPLETED FOR THE FOLLOWING TEST PLAN SEGMENTS-INTRODUCTION, MATERIEL DESCRIPTION, TEST OBJECTIVES + SCOPE, INDIVIDUAL SUBTESTS FOR RECEIPT INSPECTION, STORAGE + PERFORMANCE, RELIABILITY, LOGISTICS, + SAFETY + HUMAN FACTORS.				DEC 83	DEC 83





**AVIATION R&D COMMAND  
(AVRADCOM)**

**TROOP SUPPORT AND AVIATION  
MATERIEL READINESS COMMAND  
(TSARCOM)**

AVIATION R+O COMMANDO AND TROOP SUPPORT AND AVIATION MR COMMANDO

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	ND. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* * C O N T R A C T A L L O C A T E D ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )	* * I N H O U S E R E M A I N I N G ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )
77	2	207,600	171,500	111,700 ( 65%)	36,100	35,600 ( 98%)
78	5	2,140,000	1,458,200	957,600 ( 65%)	681,800	377,700 ( 55%)
79	11	4,183,700	3,114,000	2,440,800 ( 78%)	1,069,700	621,300 ( 58%)
80	26	8,102,000	6,509,500	5,022,300 ( 77%)	1,592,500	735,700 ( 46%)
81	29	10,523,000	2,711,600	541,000 ( 19%)	7,811,400	702,100 ( 8%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	73	25,156,300	13,964,800	9,073,400 ( 64%)	11,191,500	2,472,400 ( 22%)
AUTHORIZED FUNDING		CONTRACT ALLLOCATED 56%		INHOUSE REMAINING 44%		

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 78 7036	ISOTHERMAL ROLL-FORGING OF COMPRESSOR BLADES 300 BLADE PREFORMS ARE PREPARED IN AM350 ALLOY. 21 FORGING TRIALS WERE PERFORMED. VARIOUS ADJUSTMENTS TO MACHINE, TOOLING AND MICROPROCESSOR.	700.0	375.0	50.0	JUN 79	NOV 82
1 81 7036	ISOTHERMAL ROLL-FORGING COMPRESSOR BLADES WORK ON THIS EFFORT IS REPORTED UNDER FY78 PROJECT UNTIL THAT PORTION IS COMPLETED. THEREAFTER IT WILL BE REPORTED UNDER THIS PROJECT.	335.0	120.0	15.2	NOV 82	NOV 82
1 80 7052	ULTRASONICALLY-ASSISTED COLD FORMING OF TITANIUM NOSE CAPS THIS PROJECT WAS CANCELLED ON D6 81 BUT WAS REOPENED DUE TO INTEREST BY CCAD FOR ULTRASONIC WELDING EQUIPMENT. THE PREVIOUS EQUIPMENT WILL BE MODIFIED. AN RFQ WAS PREPARED AND IS BEING FINALIZED.	17.5			APR 80	DEC 81
1 78 7055	ULTRASONIC WELDING OF HELICOPTOR FUSELAGE STRUCTURES A CONTRACT WAS AWARDED TO HUGHES HELICOPTERS ON 30 AUG 79. THE PROJECT HAS BEEN DELAYED 11 MONTHS BECAUSE SONU80NO CORP. COULD NOT PRODUCE QUALITY ULTRASONIC WELDS. HUGHES HAS PREPARED A PROPOSAL FOR CONTRACT MODIFICATION.	441.0	338.1	102.9	JAN 79	JUN 81
1 79 7086	ABRADABLE SEALS FOR COMPRESSOR BLADE TIP APPLICATIONS TECHNICAL WORK HAS BEEN COMPLETED, AND A DRAFT TECHNICAL REPORT IS NEARING COMPLETION. THIS PROJECT HAS ESTABLISHED A MANUFACTURING METHOD FOR ATTACHING FIBERMETAL SEALS ON TITANIUM, STAINLESS STEELS, AND SUPERALLOY COMPRESSOR SUBSTRATES.	100.0	80.0	16.4	SEP 80	AUG 81
1 78 7091	PROCESSING AIRCRAFT COMPONENTS USING PULTRUDED MATERIALS THE CONTRACT WAS MODIFIED TO INCORPORATE A REPLACEMENT RESIN SYSTEM AND PROVISIONS FOR REWORKING THE PULTRUSION OF THE B-STAGED DOOR TRACK.	360.0	207.0	173.8	SEP 80	APR 82
1 77 7108	MANUFACTURING TECHNIQUES FOR TRANSMISSION SHAFT SEALS ***** DELINQUENT STATUS REPORT *****	135.0	121.5	13.5	AUG 79	DEC 81
1 81 7108	MANUFACTURING TECHNIQUES F/TRANSMISSION SHAFT SEALS ***** DELINQUENT STATUS REPORT *****	100.0				
1 80 7113	COMPOSITE REAR FUSELAGE MANUFACTURING TECHNOLOGY PHASES 1 AND 2 HAVE BEEN COMPLETED. THE REAR FUSELAGE WILL BE A SKIN SKELETON WITH KEVLAR INNER AND OUTER SKINS AND NOMEX HONEYCOMB CORE REINFORCED WITH GRAPHITE HONEYCOMB STRAP STIFFENERS. BALLISTIC TESTS WERE POSITIVE. PHASE 3 IS NEAR COMPLETION.	960.0	910.0	50.0	DEC 80	SEP 81

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1 81 7113	COMPOSITE REAR FUSELAGE MANUFACTURING TECHNOLOGY PHASE III, TOOLING FABRICATION, IS NEARING COMPLETION. FRAMES HAVE BEEN FABRICATED, AND THEIR QUALITY WAS GOOD. THEIR WEIGHT AND COST WERE LOWER THAN ORIGINALLY PROJECTED.	1,178.0	1,100.0	41.8	JUN 82	JUN 82
1 80 7119	NON-DESTRUCTIVE EVAL TECHNIQUES FOR COMPOSITE STRUCTURES THE STATE-OF-THE-ART REVIEW OF ALL IN-PROGRESS QUALITY CONTROL AND INSPECTION TECHNIQUES APPLICABLE TO THE PRODUCTION OF COMPOSITES WAS COMPLETED.	300.0	59.0	201.0	SEP 82	SEP 82
1 81 7143	CERAMIC GAS PATH SEAL-HIGH PRESSURE TURBINE ***** DELINQUENT STATUS REPORT *****	280.0				
1 78 7144	T700 ENGINE NOZZLE IN-PROCESS INSPECTION ***** DELINQUENT STATUS REPORT *****	209.0	178.1	1.0	NOV 79	DEC 81
1 78 7155	MFG METHODS FOR IMPROVED HIGH PERFORMANCE HELICOPTER GEARS DETAIL DRAWINGS OF GEAR ROLLER PARTS COMPLETED. THE LOAD FRAME WAS DESIGNED AND CONSTRUCTION STARTED. DESIGN OF ROUGH TOOTH FURM COMPLETED. THE ULTRASONIC CALIBRATION REFERENCE FOR A1519310 WAS PREPARED.	410.0	360.0	50.0	NOV 80	MAR 84
1 80 7155	COST EFFECTIVE MANUFACTURING METHODS FOR HELICOPTER GEARS REPORTED UNDER 1787155 UNTIL THAT PORTION OF EFFORT IS COMPLETED.	180.0	142.0	38.0	JUL 81	MAR 84
1 81 7155	COST EFFECTIVE MANUF METH F/IMPVO HIGH PERF HELICOPTER GEARS REPORTED UNDER 1787155 UNTIL THAT PORTION OF EFFORT IS COMPLETED.	320.0	220.0	42.0	MAR 84	MAR 84
1 80 7156	ULTRASONIC ASSISTED MACHINING FOR SUPERALLOYS ULTRASONIC EQUIP PREVIOUSLY DEVELOPED WAS UPGRADED DURING THIS REPORTING PERIOD BY IMPROVING TOOL RETENTION, DEVELOPING AN OPERATIONAL INTERLOCK AND IMPROVING CONTROL AND INSTRUMENTATION.	60.0	42.7	5.0	APR 81	OCT 81
1 81 7183	SEMI-AUTO COMP MANUF SYS F/HELL FUSELAGE SECONDARY STRUC AN ACQUISITION COST ANALYSIS REPORT COVERING PROJECTED ACQUISITION COSTS AND COST TRADE-OFFS BETWEEN PROTOTYPE AND COMPOSITE DOORS WAS COMPLETED.	250.0	110.6	22.0	DEC 81	DEC 81
1 80 7197	FABRICATION OF INTEGRAL ROTORS BY JOINING AIR FORCE WORK COMPLETED IN SEPT 80. ARMY FOLLOW ON CONTRACT AWARD 12 MAR 81-DUAL PROPERTY T63 TURBINE ROTORS. TOOLING MODIFICATION AND PURCHASE OF P/M HU8S COMPLETED.	100.0	75.0	25.0	SEP 81	DEC 81
1 81 7197	FABRICATION OF INTEGRAL ROTORS BY JOINING THE PROCUREMENT OF CASTINGS FOR BLADE RINGS WAS STARTED.	200.0	140.0	39.0	OCT 81	OCT 81

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		VALUES	LABOR AND MATERIAL (\$000)	PROJECTED COMPLETE DATE	PROJECTED COMPLETE DATE	
		(\$000)	(\$000)			
1 80 7199	SURFACE HARDENING OF GEARS, BEARINGS AND SEALS BY LASERS NO TECHNICAL WORK WAS ACCOMPLISHED DURING THIS PERIOD. WORK BY THE CONTRACTOR IS BEING TERMINATED DUE TO LACK OF FUNDS FOR THE EXPANDED SCOPE OF WORK. THE FINAL 301 AND THE FINAL TECHNICAL REPORT SHOULD BE SUBMITTED DURING THE NEXT REPORTING PERIOD.	225.0	162.3	56.0	SEP 81	JUN 81
1 81 7200	COMPOSITE ENGINE INLET PARTICLE SEPARATOR TOOLING/EQUIPMENT/PROCESS DEVELOPMENT AND SUBELEMENT TESTING HAVE BEEN COMPLETED. FABRICATION OF FULL SWIRL FRAMES IS UNDERWAY.	500.0	256.0	62.0	OCT 81	OCT 81
1 80 7202	APPLICATION OF THERMOPLASTICS TO HELICOPTER SECONDARY STRUCTURES PROCESS PROCEDURES WERE ESTABLISHED. FABRICATION OF THE INNER DOOR SKIN RESULTED IN UNACCEPTABLE WRINKLING. SUBSEQUENT FABRICATION WITH ALTERNATE MATERIALS ALSO RESULTED IN WRINKLING. WORK IS UNDERWAY TO RESOLVE THE WRINKLING PROBLEM.	225.0	180.0	45.0	OCT 81	OCT 81
1 81 7202	APPLICATION OF THERMOPLASTICS TO HELICOPTER SECONDARY STRUCTURES PROCESS PROCEDURES WERE ESTABLISHED. FABRICATION OF THE INNER DOOR SKIN RESULTED IN UNACCEPTABLE WRINKLING. SUBSEQUENT FABRICATION WITH ALTERNATE MATERIALS ALSO RESULTED IN WRINKLING. WORK IS UNDERWAY TO RESOLVE THE WRINKLING PROBLEM.	100.0	13.0	74.0	OCT 81	OCT 81
1 77 7238	PRECISION FORGED ALUMINIUM POWDER METALLURGY ***** OELINQUENT STATUS REPORT *****	72.6	50.0	22.1	MAR 79	OEC 81
1 79 7238	PRECISION FORGED ALUMINIUM POWDER METALLURGY ***** OELINQUENT STATUS REPORT *****	398.7	350.0	30.9	APR 81	DEC 81
1 80 7240	MACHINING METHODS FOR ESR 4340 STEEL FOR HELICOPTER APPL. IT HAS BEEN DETERMINED THAT INSUFFICIENT FUNDS ARE AVAILABLE TO PURSUE THE HUGHES PROPOSAL. THIS PROJECT IS THEREFORE IN THE PROCESS OF BEING CANCELLED.	97.0		5.5	DEC 81	OEC 81
1 79 7241	HOT ISOSTATIC PRESSING OF TITANIUM CASTINGS FOUR ROTOR HUBS CAST FROM REVERT MATERIAL HAVE BEEN POURKOED. PROCESSING OF THE LAST HUB IS NEAR COMPLETION. ULTRASONIC TESTING HAS BEEN COMPLETED AND A FINAL REPORT WRITTEN.	570.0	431.5	40.0	SEP 81	SEP 81
1 80 7241	HOT ISOSTATIC PRESSED TITANIUM NO FY80 FUNDS WILL BE SPENT UNTIL PRIOR FUNDS ARE GONE.	100.0	75.0		JUL 81	MAR 82
1 80 7243	MACHINING OPERATIONS ON KEVLAR LAMINATED CONSTRUCTIONS THE TECHNOLOGY/LITERATURE AND ORGANIZATION SURVEY INDICATED THAT THE WATER JET OFFERS THE BEST POTENTIAL FOR CUTTING THIN LAMINATES (1/8 INCH). PROJECT IS ON SCHEDULE.	135.0	120.0	15.0	OEC 81	JAN 82



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		(\$000)	(\$000)	(\$000)		
1 81 7243	MACHINING OPERATIONS ON KEVLAR LAMINATED CONSTRUCTIONS THE TECHNOLOGY/LITERATURE AND ORGANIZATION SURVEY INDICATED THAT THE WATER JET OFFERS THE BEST POTENTIAL FOR CUTTING THIN LAMINATES (1/8 INCH). PROJECT IS ON SCHEDULE.	100.0	75.0	25.0	OCT 82	OCT 82
1 79 7284	SUPERPLASTIC FORMING/DIFFUSION BONDING OF TITANIUM TWO SUPERPLASTICALLY FORMED FIREWALLS ARE BEING CHEMICALLY MILLED IN PREPARATION FOR THE QUALIFICATION TEST. TWO MORE FIREWALLS WERE FORMED DURING THIS PERIOD AND ARE BEING SENT TO THE SUB-CONTRACTOR FOR MACHINING.	450.0	406.2	40.0	OCT 82	AUG 81
1 79 7285	CAST TITANIUM COMPRESSOR IMPELLERS DETROIT DIESEL ALLISON HAS COMPLETED THE EVALUATION OF TITANIUM CASTINGS. SOLAR TURBINES HAS COMPLETED THE EFFORT EVALUATING MOLD MODIFICATIONS AND ALTERNATE HIP-CHEM MILL AND HEAT-TREAT PROCEDURES USING CASTINGS FROM PCC AND TITECH.	675.0	550.0	119.3	FEB 80	OCT 81
1 80 7285	CAST TITANIUM COMPRESSOR IMPELLERS CONTRACT EFFORTS FOR PHASE I HAVE BEEN COMPLETED BY DETROIT DIESEL ALLISON AND SOLAR TURBINES.	270.0	229.0	20.0	SEP 81	OCT 81
1 81 7285	CAST TITANIUM COMPRESSOR IMPELLERS PHASE I CONTRACT WORK COMPLETED.	100.0	50.0	20.0	OCT 81	OCT 81
1 79 7286	SUPERALLOY POWDER PRODUCTION FOR TURBINE COMPONENTS ATOMIZATION IS ONE OF THE BIGGEST SOURCES OF CONTAMINATION. ONE POWDER SUPPLIER IS EVALUATING PROCESS IMPROVEMENTS BEFORE MAKING A SECOND MASTER ALLOY POWDER.	358.0	210.0	136.4	FEB 81	OCT 81
1 80 7286	HIGH QUALITY SUPERALLOY POWDER PRODUCTION FOR TURB. COMP. FUNDS ARE BEING USED FOR IN-HOUSE ENGINEERING SUPPORT.	20.0		9.0	MAR 81	OEC 81
1 79 7288	OPTIMAL CURING COND. FOR PROCESS FIBER-REINFORCED COMPOSITES TECHNICAL WORK HAS BEEN COMPLETED. SP-25DE, SP-250S2, RAC-725DE AND RAC-7250S2 GLASS/EPOXY PREPREGS WERE CHARACTERIZED, LAID UP, CURED, AND TESTED TO DETERMINE OPTIMUM CURE TIME, TEMPERATURE, HEATING AND COOLING RATES, AND CURE TECHNIQUE.	112.5		112.5	MAY 80	DEC 81
1 80 7288	DETERMINATION OF OPTIMAL CURING CONDITIONS FOR COMPOSITES FULLY CHARACTERIZED PREPREG SAMPLES WERE LAMINATED AND CURED. CURING WAS MONITORED USING ION GRAPHING AND ACOUSTIC EMISSION. RESULTS INDICATE DWELL TIME CAN BE REDUCED IN HALF, AND THAT COOL DOWN RATE SHOULD BE SLOW TO AVOID THERMAL STRESS.	100.0		70.2	SEP 80	SEP 82
1 81 7288	MMT DETERMINATION OF OPTIMAL CURING CONDITIONS EQUIPMENT WAS PURCHASED. WORK WILL BEGIN WHEN THE NEW EQUIPMENT IS RECEIVED.	158.0		50.0	AUG 82	AUG 82

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1 80 7291	TITANIUM POWDER METAL COMPRESSOR IMPELLER THE FIRST SHAPE TRIAL WAS CONDUCTED IN MAY.	216.0	150.0	36.0	JUN 81	JAN 82
1 81 7291	TITANIUM POWDER METAL COMPRESSOR IMPELLER WORK IS JUST BEING INITIATED ON THE FY81 PORTION.	240.0	200.0	26.0	JAN 83	JAN 83
1 79 7298	HIGH TEMPERATURE VACUUM CARBURIZING A SCOPE OF WORK WAS PREPARED AND AN RFQ WAS SUBMITTED. CONTRACT WORK IS PROJECTED TO START ON 15 AUGUST 1981. OTHER ACTIVITY IS BEING DONE TOWARD ADOPTING AVAILABLE VACUUM FURNACE FOR VACUUM CARBURIZING CAPABILITY AT AMRC.	25.0		5.9	MAY 80	DEC 81
1 80 7298	HIGH TEMPERATURE VACUUM CARBURIZING A SCOPE OF WORK WAS PREPARED AND AN RFQ WAS SUBMITTED. CONTRACT WORK IS PROJECTED TO START ON 15 AUGUST 1981. OTHER ACTIVITY IS BEING DONE TOWARD ADOPTING AVAILABLE VACUUM FURNACE FOR VACUUM CARBURIZING CAPABILITY AT AMRC.	139.0		4.0	SEP 80	DEC 81
1 81 7298	HIGH TEMPERATURE VACUUM CARBURIZING NO WORK WAS PERFORMED.	75.0			DEC 81	DEC 81
1 81 7300	IMPROVED LOW CYCLE FATIGUE CAST ROTORS FUNDS WILL BE MIPRED TO THE NAVY AS PART OF A TRI-SERVICE EFFORT.	60.0		10.0	DEC 82	DEC 82
1 79 7315	LOW COST MANUFACTURE OF POISE GIMBAL ***** DELINQUENT STATUS REPORT *****	302.0	199.3	25.0	JUL 81	SEP 81
1 81 7319	PROD METH F/OIGITAL ADDRESSABLE MULTI-LEGEND DISPLAY SWITCH ***** DELINQUENT STATUS REPORT *****	50.0		5.0	OCT 83	OCT 81
1 81 7322	LOW COST TRANSPARATION-COOLED COMBUSTOR LINER THE CONTRACT HAS NOT BEEN LET.	50.0	20.0	8.0	SEP 81	SEP 81
1 79 7338	COMPOSITE TAIL SECTION PHASE 1 (DESIGN AND MANUFACTURING REFINEMENTS) TECHNICAL WORK WAS COMPLETED WITH A COST OVERRUN. THIS PROBLEM IS IN THE PROCESS OF BEING RESOLVED.	980.0	887.0	87.0	JUL 80	SEP 81
1 80 7338	COMPOSITE TAIL SECTION DUE TO FUNDING AND SCHEDULE SLIPPAGES, THIS PROJECT IS IN A STATE OF FLUX, AND ALL WORK HAS CEASED. A DECISION TO PROCEED OR TERMINATE THE PROJECT WILL BE DETERMINED IN THE NEXT REPORTING PERIOD.	960.0	809.0	80.0	JUL 82	JUL 82
1 81 7338	COMPOSITE TAIL SECTION INITIATION OF THIS PROJECT IS SUBJECT TO THE REVIEW OF THE FY80 PROJECT.	1,090.0		80.0		



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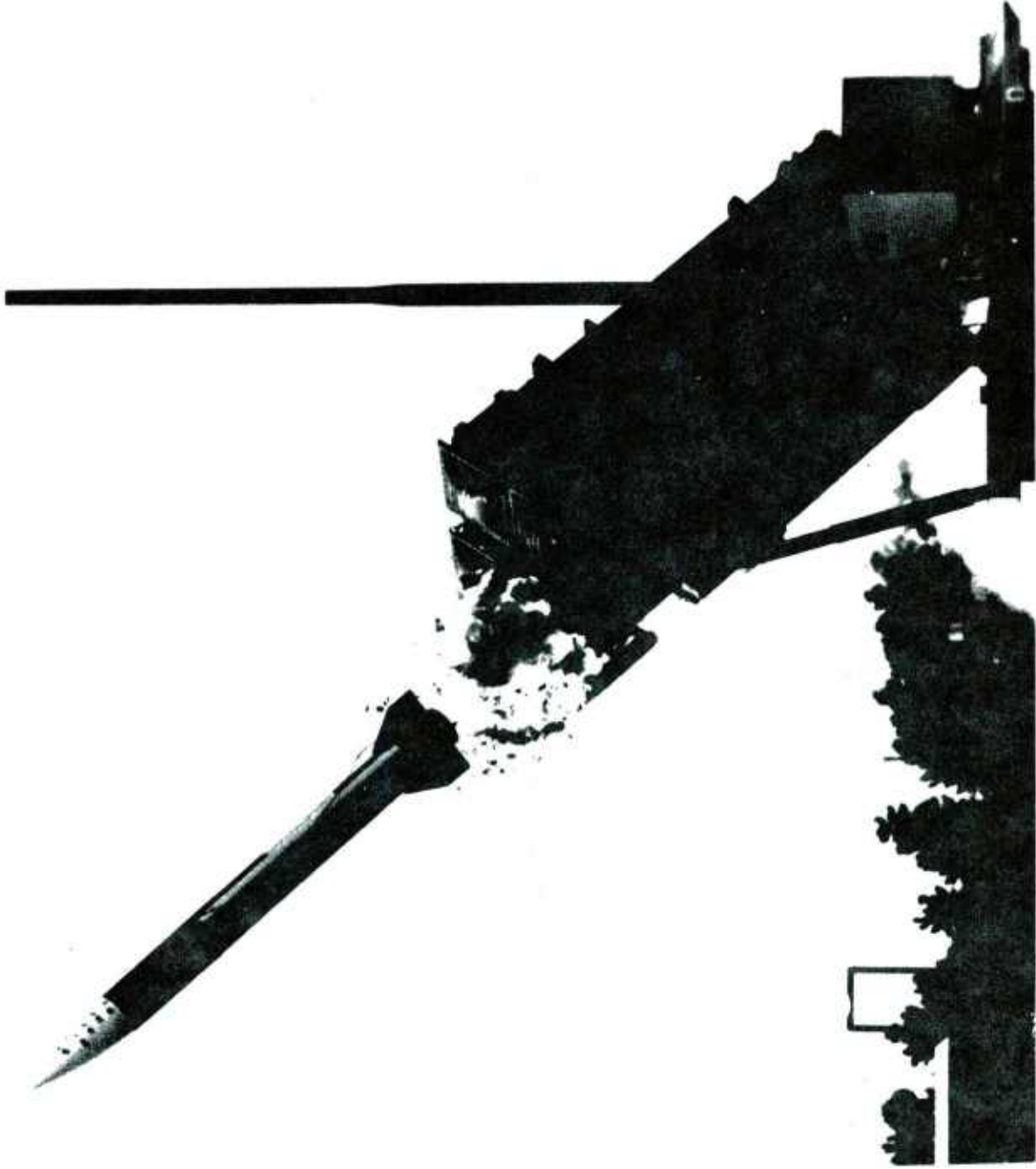
PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 80 7339	FILAMENT WOUND COMPOSITE FLEX8EAM TAIL ROTOR ASSESSMENT OF THE TEST FAILURE WAS COMPLETED, AND RESULTED IN RECONFIGURATION OF THE PITCH CASE AND THE CASE AND FLEX8EAM INTERFACE WAS ACCOMPLISHED. ALL WORK WAS STOPPED AND THE CONTRACTOR WAS REQUESTED TO SUBMIT A FIRM FIXED PRICE PROPOSAL.	1,300.0	1,270.0	24.0	AUG 82	AUG 82
1 81 7339	FILAMENT WOUND COMPOSITE FLEX8EAM TAIL ROTOR ALL WORK IS ON HOLD PENDING RESCOPING AND RENEGOTIATION OF CONTRACT ON FIRM FIXED PRICE BASIS.	780.0		41.9	FEB 83	FEB 83
1 80 7340	COMPOSITE MAIN ROTOR BLADE ALL WORK BUT THE TECHNICAL REPORT HAS BEEN COMPLETED. EFFORTS ARE UNDERWAY TO SETTLE THE COST OVERRUN ON THE CONTRACT.	2,092.5	2,062.5	30.0	NOV 80	SEP 81
1 81 7340	COMPOSITE MAIN ROTOR BLADE A CONTRACT HAS NOT BEEN AWARDED IN VIEW OF THE NEGOTIATIONS CONCERNING THE FY80 PROJECT. THE CONTRACTOR HAS REDESIGNED THE ROOT END OF THE BLADE AND CONDUCTED FATIGUE TESTS WITH THEIR OWN RESOURCES. NEGOTIATIONS FOR AN FFD CONTRACT ARE IN PROGRESS.	734.0		44.0	NOV 83	NOV 83
1 80 7341	STRUCTURAL COMPOSITES FABRICATION GUIDE ***** DELINQUENT STATUS REPORT *****	50.0	50.0		DEC 80	JAN 81
1 81 7341	STRUCTURAL COMPOSITES FABRICATION GUIDE ***** DELINQUENT STATUS REPORT *****	73.0				
1 80 7342	PULTRUSION OF HONEYCOMB SANDWICH PANELS A CONTRACT HAS BEEN AWARDED TO BOEING-VERTEL FOR FABRICATION OF FLOOR BEAMS AND FLOOR PANELS FROM PULTRUDED COMPONENTS FOR A CH-47 CARGO RAMP.	85.0	73.0	12.0	SEP 82	SEP 82
1 81 7342	PULTRUSION OF HONEYCOMB SANDWICH STRUCTURES A CONTRACT HAS BEEN AWARDED TO BOEING-VERTEL FOR FABRICATION OF FLOOR BEAMS AND FLOOR PANELS FROM PULTRUDED COMPONENTS FOR A CH-47 CARGO RAMP.	178.0	157.0	11.2	JUN 83	JUN 83
1 81 7351	COMPOSITE SHAFTING FOR TURBINE ENGINES AIR FORCE (AFML) IS THE LEAD SERVICE. AVCO IS THE CONTRACTOR. MONOLAYER PERFORM DEVELOPMENT EFFORTS WERE COMPLETED, AND RESULTED IN THE SELECTION OF THE B4C-B FIBER OVER THE 80RS1C FIBER SYSTEM. MONOLAYER CONSOLIDATION WORK IS CONTINUING.	300.0	250.0	35.0	DCT 81	DCT 81
1 80 7370	RING WRAP COMPOSITES WORK TO PROCURE A CONTRACT WAS CONTINUED.	70.0				

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1 79 7371	INTEGRATED BLADE INSPECTION SYSTEM (IBIS) WORK CONTINUES TO UPDATE MANIPULATION SOFTWARE FOR MORE EFFICIENT BLADE HANDLING. A METHOD FOR POSITIONING BLADE GRIPPERS TO A REFERENCE POINT DURING THE INSPECTION SCAN IS BEING DEVELOPED. THE SOFTWARE FOR VIM CONFIGURATION HAS BEEN WRITTEN.	212.5		7.9	MAR 82	NOV 81
1 80 7371	INTEGRATED BLADE INSPECTION SYSTEM (IBIS) SEE PROJECT 1 81 7371 FOR STATUS.	100.0			DEC 84	DEC 84
1 81 7371	INTEGRATED BLADE INSPECTION SYSTEM (IBIS) IRIM WIND TUNNEL/INFRARED CAMERA TESTING, CALIBRATION AND DESIGN OF CASCADE HARDWARE IS UNDERWAY. THE XIM SOFTWARE STANDARDS MANUAL HAS BEEN COMPLETED. THE SOFTWARE FOR THE CONFIGURATION MANAGEMENT GUIDE AND DATA SYSTEM DOCUMENTATION IS UNDERWAY.	357.0			OEC 84	DEC 84
1 81 7376	AUTO INSPECT AND PRECISION GRINDING OF SB GEARS ***** DELINQUENT STATUS REPORT *****	215.0				
1 80 7382	LOW COST COMPOSITE MAIN ROTOR BLADE FOR THE UH-60A PROCUREMENT OF A CONTRACTOR IS IN PROGRESS. CONTRACT AWARD IS ANTICIPATED FOR EARLY JULY 81.	100.0		10.0	SEP 82	SEP 82
1 81 7382	LOW COST COMPOSITE MAIN ROTOR BLADE FOR THE UH-60A CONTRACT PROCUREMENT IS UNDER NEGOTIATION. ANTICIPATED CONTRACT AWARD DATE IS EARLY JULY 81.	900.0		50.0	SEP 82	SEP 82
1 80 7391	BEARING DIAGNOSTIC AND RECLAMATION TECHNIQUES ***** DELINQUENT STATUS REPORT *****	100.0	100.0		MAR 81	OEC 81
1 80 7412	INFRARED DETECTOR FOR LASER WARNING RECEIVER ***** DELINQUENT STATUS REPORT *****	100.0				
1 81 7412	INFRARED DETECTOR FOR LASER WARNING RECEIVER ***** DELINQUENT STATUS REPORT *****	650.0				

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMI-ANNUAL SUBMISSION CY B1 RCS DRCMT-3D1

PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)			
7 81 819D	MMT IMPROVED BLISK-IMPELLER CUTTER LIFE NO WORK WAS ACCOMPLISHED DURING THIS REPORTING PERIOD.	225.0			SEP 82	SEP 82
7 B1 8192	TURBINE ENGINE PRODUCTIVITY IMPROVEMENT FUNDING WAS JUST RECEIVED. NO WORK HAS BEEN ACCOMPLISHED.	925.D			MAR 82	MAR 82



**MISSILE COMMAND  
(MICOM)**

# M I S S I L E C O M M A N D

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* * C O N T R A C T A L L O C A T E D ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )	* * I N H O U S E R E M A I N I N G ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )
78	7	1,386,000	911,900	820,500 ( 89%)	474,100	652,400 (137%)
79	13	5,168,300	3,979,600	3,544,100 ( 89%)	1,188,700	832,200 ( 70%)
80	22	7,533,400	4,810,600	2,347,700 ( 48%)	2,722,800	622,300 ( 22%)
81	24	12,150,000	2,338,100	539,500 ( 23%)	9,811,900	60,000 ( 0%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	66	26,237,700	12,040,200	7,251,800 ( 60%)	14,197,500	2,166,900 ( 15%)
AUTHORIZED FUNDING		CONTRACT ALLOCATED 46%		INHOUSE REMAINING 54%		

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
S U M M A R Y P R O J E C T S T A T U S R E P O R T  
1ST SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-3D1

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$DDD)	CONTRACT VALUES (\$DDD)	EXPENDED LABOR AND MATERIAL (\$DDD)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 8D 1D18	IMPROVED MFG. PROCESSES FOR DRY TUNED ACCELEROMETERS (CAM) ***** DELINQUENT STATUS REPORT *****	228.D	228.D		MAR 81	DEC 81
3 81 1D21	CPPP MACHINED CYLINDRICAL PARTS (CAM) WORK IS CONTINUING ON REFERENCE SERVICE SELECTION, DIMENSIONING, AND THE TOLERANCE DATA BASE. A MAJOR TECHNOLOGY TRANSFER EFFORT IS PLANNED FOR 1982.	234.D	184.4		JUL 82	AUG 82
R 8D 1D23	DIGITAL FAULT ISOLATION F/HYBRID MICROELECTRONIC MODULES ***** DELINQUENT STATUS REPORTS *****	300.0		3.0	OCT 81	DEC 82
R 8D 1D24	MMT RADIO FREQUENCY STRIPLINE HYBRID COMPONENTS HUGHES WILL ADAPT SEMIADDITIVE CIRCUIT BOARD PROCESSES TO STRIPLINE AND MICROSTRIP HYBRIDS. TRANSMISSION MEDIA FOR MILLIMETER WAVE SIGNAL CONTROL DEVICES WERE ANALYZED AND DEVELOPMENT OF FREQUENCY MULTIPLIER DIODES HAS BEGUN.	745.D	658.7	82.D	AUG 82	SEP 82
R 8D 1D26	LOW COST MANUF TECH F/THE HIGH PROD OF MISSILE VANES ALL TOOL DESIGN ACTIVITY WAS COMPLETED. THE PROCESS DEVELOPMENT FOR BONDING THE HONEYCOMB TO THE TORQUE BOX HAS BEEN COMPLETED. A THREE-DIMENSIONAL FINITE ELEMENT MODEL WAS DEVELOPED AND ANALYZED USING NASTRAN.	305.0	289.4		JUN 81	AUG 81
3 81 1D26	PRODUCTION OF LOW COST MISSILE VANES THERE WERE NO ACCOMPLISHMENTS PROVIDED ON THIS 3D1.	38D.D			AUG 81	
R 79 1D41	LSI FABRICATION METHODOLOGY IMPROVEMENT HARRIS, RCA AND MARTIN CONCENTRATED ON IMPROVING PROCESS CONTROL AND TOPOLOGY TO RAISE THE GAIN AND YIELD OF A DULA INPUT PREAMPLIFIER. RCA PRE-AMP WAS DROPPED AND RCA BUILT MARTIN DESIGN. HARRIS ALSO WORKED ON SUM-LIMIT CIRCUIT. EXCELLENT MICOM RPT.	1,DDD.D	967.D	3.D	SEP 8D	SEP 81
3 81 1D42	PRODUCTION OF COMPOSITE RADOME STRUCTURES ***** DELINQUENT STATUS REPORT *****	755.0				
3 81 1D44	CONTINUOUS PROCESS FOR PROPELLANT MANUFACTURE ***** DELINQUENT STATUS REPORT *****	5D.D				
3 81 1D50	LOW COST 8RAIDED RECKET MOTOR COMPONENTS A CONTRACT WAS INITIATED AND PLACED WITH MCCONNELL DOUGLAS ASTRONAUTICS COMPANY. PHASE 2, OPTIMIZATION OF RAW MATERIAL AND PREPARATION OF THE 8RAIDING MANDREL, HAS BEEN INITIATED.	43D.D	386.9		MAR 82	MAR 82
3 81 1D51	REPLACEMENT OF ASBESTOS IN ROCKET MOTOR INSULATIONS ***** DELINQUENT STATUS REPORT *****	475.D				



S U M M A R Y P R O J E C T S T A T U S R E P O R T  
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)	DATE	DATE

3 81 1060	ELECTRICAL TEST AND SCREENING OF CHIPS ***** OELINQUENT STATUS REPORT %%%%	375.0				
3 81 1063	SEMIADDITIONAL REEL TO REEL FLEX PRINT PROCESS ***** OELINQUENT STATUS REPORT *****	350.0				
R 80 1071	HYBRID INTEGRATED CAD AND MANUFACTURING (HICADAM) ***** OELINQUENT STATUS REPORT *****	100.0		3.7	SEP 81	SEP 81
3 81 1072	MULTIPLE HIGH RELIABILITY/LOW VOLUME LSI MFG A CONTRACTOR WILL ANALYZE LARGE-SCALE INTEGRATION (LSI) MANUFACTURING TECHNIQUES TO DEVELOP A COMPREHENSIVE PRODUCTION PLAN. COMPUTER-AIDED DESIGN WILL BE USED AND WORK WILL FOCUS ON LINEAR LSI TECHNOLOGY. CONTRACTOR PROPOSALS ARE BEING REVIEWED.	1,540.0			MAR 83	MAR 83
3 81 1073	REAL TIME ULTRASONIC IMAGING ***** OELINQUENT STATUS REPORT *****	200.0				
R 80 1075	ELECTRONICS COMPUTER AIDED MANUFACTURING (ECAM) ***** OELINQUENT STATUS REPORT *****	200.0		10.0	SEP 81	OEC 81
3 81 1075	ELECTRONICS COMPUTER AIDED MANUFACTURING (ECAM) BATTLEFIELD IS PLANNING INTEGRATION OF COMPUTER-AIDED DESIGN/MANUFACTURE OF MILITARY ELECTRONICS THRU A COALITION OF 12 FIRMS. WORK DONE IN THIS TRI-SERVICE EFFORT INCLUDES PREPARATION AND REVIEW OF A DRAFT PLAN BY MICOM AND COALITION FIRMS.	1,685.0	1,634.0	55.0	SEP 81	SEP 81
3 81 1076	PATTERN RECOGNITION OF COMPONENTS F/HYBRID CIRCUIT SUBSTRATE ***** OELINQUENT STATUS REPORT *****	550.0				
3 81 1086	COBALT REPLACEMENT IN MAKING STEEL F/ROCKET MOTOR COMP PROCUREMENT PACKAGE PREPARED AND BEING ROUTED THROUGH PP DIRECTORATE.	300.0				
3 81 1088	OPTIMIZED MANDREL FAB AND UTILIZATION F/COMP MOTOR CASES ***** OELINQUENT STATUS REPORT *****	700.0				
3 81 1108	RF AND LASER HARDENING OF MISSILE DOMES ***** OELINQUENT STATUS REPORT *****	440.0				
3 81 1109	ROBOTIZED WIRE HARNESS ASSEMBLY SYSTEM ***** OELINQUENT STATUS REPORT *****	150.0				
3 80 3115	ENGINEERING FOR METROLOGY AND CALIBRATION ***** OELINQUENT STATUS REPORT *****	747.0	420.0	207.0	OEC 81	OEC 81

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
3 81 3115	ENGINEERING FOR METROLOGY AND CALIBRATION ***** OELINQUENT STATUS REPORT *****	661.0				
R 78 3133	LITHIUM FERRITE PHASE SHIFTER FOR PHASED ARRAY RADAR RAYTHEON HAS NEARLY COMPLETED WORK ON ISOSTATIC PRESSING AND FIRING OF LITHIUM FERRITE PHASE SHIFTERS. THE EFFORT IMPROVED YIELD, MAGNETIC PROPERTIES, AND DIMENSIONAL TOLERANCES. TEST RESULTS ARE VERY ENCOURAGING. A TECH REPORT IS BEING COMPILED.		195.5	199.4	SEP 79	JUN 81
R 80 3139	PROD METHODS F/MILLIMETER SEEK F/TERMINAL HOMING APPLICATION ***** OELINQUENT STATUS REPORT *****	393.4	393.4		MAY 82	SEP 81
3 81 3139	MILLIMETER SEEKERS FOR TERMINAL HOMING (TH) ***** OELINQUENT STATUS REPORT *****	750.0		5.0	SEP 82	SEP 82
R 80 3142	PRODUCTION METHODS F/LOW COST PAPER MOTOR COMPONENTS FULL SCALE MOTOR CONCEPT DEMONSTRATION COMPLETED. REPRODUCIBILITY DEMONSTRATION WITH PRODUCTION CONTRACTOR NEARING COMPLETION. DELIVERY OF PRODUCTION COMPONENTS FOR TEST FIRING INITIATED.	200.0	179.8	15.0	JUN 82	JUL 81
R 79 3146	HIGH DENSITY MULTILAYER THICK FILM HYBRID MICRO CIRCUITS ***** OELINQUENT STATUS REPORT *****	350.0	240.0	41.2	JUN 80	OEC 81
R 78 3147	ADDITIVE PROCESSES FOR FABRICATION OF PRINT CIRCUIT BOARDS ***** OELINQUENT STATUS REPORT *****	250.0	170.1	79.9	JUN 78	OCT 81
R 79 3160	CLEANLINESS + PROCESS CRITERIA FOR CIRCUIT BOARDS MARTIN IS WORKING TO IDENTIFY, QUANTIFY, + REMOVE CONTAMINANTS REMAINING ON PCBs AFTER NORMAL CLEANING. DEFECTIVE EMISSION SPECTROSCOPE HAS INVALIDATED SOME RESULTS + WILL CAUSE SCHEDULE SLIPPAGE. VENDOR WILL MAKE NO-COST EQUIPMENT REPLACEMENT.	279.4	244.6	18.0	MAR 80	OCT 81
R 78 3165	PRODIN PROCESS + TECHNIQUES FOR SEALING HYBRID MIC-CIR PACK ***** OELINQUENT STATUS REPORT *****	220.0	211.0	9.0	NOV 79	OEC 81
R 80 3169	OPTICAL INSP OF PRINTED CIRCUIT BOARDS AN OPERATING INSPECTION SYS WAS DESIGNED + ASSEMBLED, + USED TO ESTABLISH OPERATING PARAMETERS, CAPABILITY, AND COST EFFECTIVELY ON A HIGH SPEED PRODUCTION LINE. A PRODUCTION PROTOTYPE HAS BEEN MANUFACTURED.	90.0	90.0		SEP 80	JUN 81
R 79 3204	INTERNAL SHEAR FORMING OF MISSILE STRUCTURES PROTOTYPES RECEIVED FROM IITRI. EA AND DRAFT OF FINAL TECHNICAL REPORT ALSO RECEIVED, REVIEWED AND COMMENTS RETURNED TO IITRI. PROTOTYPES NOT ACCEPTABLE FOR MISSILE STRUCTURE.	273.9	273.9		SEP 80	APR 81

S U M M A R Y P R O J E C T S T A T U S R E P O R T  
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MANUFACTURING METHODS AND TECHNOLOGY PROGRAM

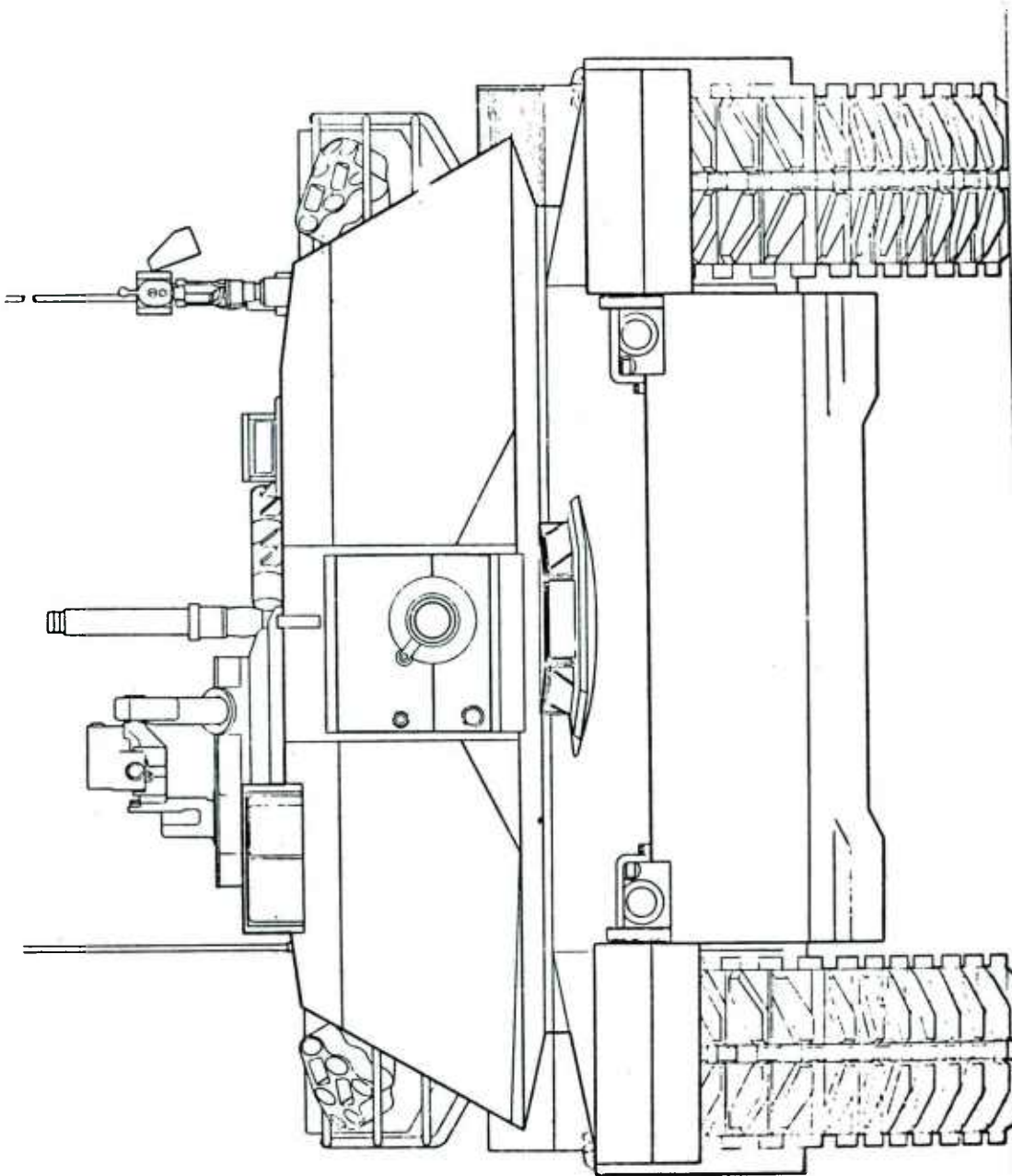
PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 79 3217	AUTOMATED PRODUCTION METHODS FOR TRAVELING WAVE TUBES ***** DELINQUENT STATUS REPORT *****	685.0	620.0	65.0	JUL 80	DEC 81
R 80 3217	AUTOMATED PRODUCTION METHODS FOR TRAVELING WAVE TUBES ***** DELINQUENT STATUS REPORT *****	335.0				
R 78 3218	REDUCE THE FINISHING COST OF FUSED SILICA RADOMES FOUR ADDITIONAL CASTINGS WERE ATTEMPTED DURING THIS REPORT PERIOD. ONE CASTING WAS MADE WITH THE OLD SLIP AND IT CRACKED. CASTINGS WITH THE NEW SLIP WERE UNSATISFACTORY. THE PROBLEMS SEEM TO BE WITH THE MANDREL.	300.0	12.7	281.7	OCT 79	JUN 81
R 80 3219	AUTOMATIC POLYMER ATTACHMENT PRODUCTION METHODS CONTRACT NOT YET AWARDED. VENDOR WILL ESTABLISH A COMPLETELY AUTOMATED POLYMER DIE ATTACHMENT SYSTEM FOR HYBRIDS. AUTOMATIC CHIP RECOGNITION SYSTEM WILL PROCESS 25 CERAMIC SUBSTRATES PER HOUR WITH 30 DIE PLACED PER SUBSTRATE.	200.0		5.0	JAN 81	AUG 83
R 79 3253	HIGH CURRENT DENSITY CATHODES ***** DELINQUENT STATUS REPORT *****	175.0	126.3	48.0	JUN 80	DEC 81
R 80 3254	LOW COST SEMI-FLEXIBLE THIN FILM SEMICONDUCTORS (CAM) ***** DELINQUENT STATUS REPORT *****	375.0	375.0		JUN 81	OEC 81
R 80 3263	PRINTED WIRE BOARDS UTILIZING LEADLESS COMPONENTS ***** DELINQUENT STATUS REPORT *****	250.0	127.0	9.5	JAN 81	DEC 81
3 81 3263	PWB'S UTILIZING LEADLESS COMPONENTS ***** DELINQUENT STATUS REPORT *****	400.0				
R 79 3268	AUTOMATIC CONTROL OF PLATING (CAM) ASSEMBLY + INSTALLATION OF THE AUTOMATIC MONITORING AND CONTROL SYSTEM ON GENERAL DYNAMICS PLATING LINE IS COMPLETED. THE INDUSTRY DEMO TO GOVT AND INDUSTRY WAS CONDUCTED ON THE 21ST AND 22ND OF JULY 1981. A FINAL REPORT IS FORTHCOMING.	450.0	209.5	240.5	SEP 80	SEP 80
R 79 3280	ENGR ANALYSIS OF MFG PARAMETERS FOR THERMAL BATTERIES ***** DELINQUENT STATUS REPORT *****	145.0			SEP 80	OEC 81
R 80 3294	PRODUCTION PROCESSES FOR ROTARY ROLL FORMING THE ESTABLISHMENT OF MFG TECHNIQUES AND PROCEDURES FOR ROLL FORMING NOZZLE CONTOURS IN LINE PIPE, EVALUATION OF PROTOTYPE COMPONENTS, AND TOLERANCE OPTIMIZATION HAVE BEEN COMPLETED. INTERIM PROJECT REPORT WILL BE PREPARED.	300.0	227.5	65.0	DEC 81	AUG 82

S U M M A R Y P R O J E C T S T A T U S R E P O R T  
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
3 81 3294	PRODUCTION PROCESS FOR ROTARY ROLL FORMING THE TECHNICAL EFFORT FOR THIS PROGRAM WILL BE INITIATED AS A FOLLOW-ON TO PROJECT NO. R 80 3294.	175.0	132.8		JUN 82	SEP 82
R 79 3372	MANUFACTURING METHODS FOR MAGNETIC MATERIALS ***** DELINQUENT STATUS REPORT *****	410.0	362.0	48.0	OCT 79	DEC 81
R 78 3376	TESTING ELECTRO-OPTICAL COMPONENTS AND SUBSYSTEMS ***** DELINQUENT STATUS REPORT *****	205.0	175.0	30.0	OEC 80	DEC 81
R 80 3376	TESTING OF ELECTRO-OPTICAL COMPONENTS AND SUBSYSTEMS ***** DELINQUENT STATUS REPORT *****	475.0	475.0		JUN 81	DEC 81
R 79 3381	LOW COST, IMPROVED 2-0 HEAT SHIELDS BECAUSE OF HIGH COST BRAIDING OF COMMERCIAL SILICA YARN DROPPED. A SERIES OF VARIOUS CONSTRUCTION, FLAT, E-GLASS, BRAIDS WERE SUCCESSFULLY MADE FOR LEACHING TRIALS + PREPREGGING EVALUATION. AS A RESULT, A BRAID DESIGN AND PROCESS FLOW WERE SELECTED.	500.0	476.1	23.9	MAR 80	OCT 81
R 80 3396	INJECTION MOLDING OF LOW COST-ONE-PIECE NOZZLES A DIE FOR THE MLRS NOZZLE CONFIGURATION WAS COMPLETED, AND WAS USED TO PERFORM A DEMONSTRATION RUN OF 50 NOZZLES. IN THIS RUN PROCESS PARAMETERS WERE ESTABLISHED THAT OPTIMIZED THE PRODUCTION RATE. THE NOZZLES HAVE BEEN DELIVERED FOR TESTING.	180.0	158.5	15.0	JUN 81	SEP 81
R 80 3411	MFG OF NON PLANAR PRINTED CIRCUIT BOARDS NO STATUS GIVEN IN THE 301. A CONTRACT WAS LET TO GENERAL DYNAMICS ON APR 20, 1981. THE PURPOSE OF THIS PROJECT IS TO DEVELOP THE TECHNIQUES FOR PRODUCING CYLINDRICAL CIRCUIT BOARDS.	770.0	198.0		FEB 81	JUN 83
3 81 3423	LOW COST/HIGH PERFORMANCE CARBON-CARBON NOZZLES A PROCUREMENT PACKAGE HAS BEEN COMPLETED AND IS CURRENTLY BEING PROCESSED THROUGH THE MICOM PROCUREMENT AND PRODUCTION DIRECTORATE.	300.0				
R 80 3435	SIMPLIFICATION OF HIGH-POWER THICK FILM HYBRIDS TESTINGHOUSE IS ESTABLISHING METHODS TO SCREEN AND FIRE CONDUCTOR, RESISTOR, AND DIELECTRIC PASTES ONTO BERYLLIA SUBSTRATES. LASER TRIM SYSTEM CAPABLE OF SAFELY HANDLING BERYLLIA VAPOR WILL BE USED. MOD. OF EXISTING EQUIPMENT WAS DETERMINED.	290.0	187.9	84.2	SEP 83	OEC 82
R 80 3436	CERAMIC CIRCUIT BOARDS + LARGE AREA HYBRIDS MARTIN CONTRACT- THIS EFFORT IS ESSENTIALLY COMPLETE. AN INDUSTRY DEMONSTRATION IS PLANNED IN SEPT. GEN DYN CONTRACT- A CONTRACT EXTENSION TO DEC 81 WAS GRANTED. THESE CONTRACTS WERE TO DEVELOP THE MANUFACTURING TECHNIQUES FOR LARGE AREA HYBRIDS.	450.0	406.7	43.3	DEC 81	DEC 81

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 79 3438	DELIDDING, PARALLEL SEAM SEALED HYBRID MICROELECT PACKAGES JOINT WORK WITH NAVY. WESTINGHOUSE IS DEVELOPING DELIDDING + RESEALING PROCESSES FOR HYBRID PACKAGES. DAMAGE TO VENDOR FACILITY DURING REMODELING RESULTED IN 90 DAY CONTRACT EXTENSION. ENVIRONMENTAL TESTS PER MIL-STD-883 ARE PROCEEDING WELL.	200.0	84.2	114.6	OCT 79	OCT 81
R 79 3441	APPLICATION OF HIGH ENERGY LASER MANUFACTURING PROCESSES ***** DELINQUENT STATUS REPORT *****	400.0	200.0	200.0	SEP 79	DEC 81
R 80 3444	FULLY ADDITIVE MANUFACTURING FOR PRINTED WIRING BOARDS A FIRE AT THE CONTRACTOR FACILITY HAS CAUSED A SIGNIFICANT DELAY. EFFORT IS UNDERWAY TO TRY TO RECLAIM THE TIME LOST AND TO GET THE PROGRAM BACK ON SCHEDULE.	200.0	149.7	49.6	JUN 80	SEP 81
R 79 3445	PRECISION MACHINING OF OPTICAL COMPONENT ***** DELINQUENT STATUS REPORT %%%%	300.0	176.0	30.0	OCT 81	OCT 81
R 80 3445	PRECISION MACHINING OF OPTICAL COMPONENTS ***** DELINQUENT STATUS REPORT *****	400.0	246.0	30.0	JUN 81	DEC 81
3 81 3445	PRECISION MACHINING OF OPTICAL COMPONENTS ***** DELINQUENT STATUS REPORT *****	625.0			JUN 82	JUN 82
3 81 3447	RECOVERY OF CARBORANES FROM WASTE PROPELLANT ***** DELINQUENT STATUS REPORT *****	375.0				
3 81 3449	ALTERNATE PROCESS FOR IPOI NO PROGRESS.	250.0				
R 78 3453	GROUND LASER LOCATOR DESIGNATOR PRODUCTION IMPROVEMENTS ***** DELINQUENT STATUS REPORT *****	211.0			DEC 80	DEC 81
R 78 3454	LO COST - HI VOLUME RADIOGRAPHIC INSPECTION ***** DELINQUENT STATUS REPORT *****	200.0	147.6	52.4	FEB 80	DEC 81



**TANK-AUTOMOTIVE COMMAND  
(TACOM)**



TANK - AUTOMOTIVE COMMAND

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS (\$)	* * C O N T R A C T A L L O C A T E D (\$)	F U N D I N G E X P E N D E D (\$)	* * I N H O U S E R E M A I N I N G (\$)	F U N D I N G E X P E N D E D (\$)	* *
77	1	500,000	356,600	302,400 ( 84%)	143,400	26,600 ( 18%)	
77	0	0	0	0 ( 0%)	0	0 ( 0%)	
78	5	4,156,500	3,331,100	2,132,100 ( 64%)	825,400	763,300 ( 92%)	
79	10	3,340,700	2,036,100	1,132,900 ( 55%)	1,304,600	737,000 ( 56%)	
80	11	3,049,000	2,781,900	2,167,400 ( 77%)	267,100	212,000 ( 79%)	
81	17	5,341,500	1,202,900	240,000 ( 19%)	4,138,600	101,300 ( 2%)	
82	0	0	0	0 ( 0%)	0	0 ( 0%)	
TOTAL	44	16,387,700	9,708,600	5,974,800 ( 61%)	6,679,100	1,840,200 ( 27%)	
AUTHORIZED FUNDING			CONTRACT ALLOCATED 59%		INHOUSE REMAINING 40%		

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
S U M M A R Y P R O J E C T S T A T U S R E P O R T  
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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$DDD)	CONTRACT VALUES (\$DOO)	EXPENDED LABOR AND MATERIAL (\$DOO)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 78 4264	TRACK INSERTS AND FILLERS FOR TRACK RUBBER PADS SPECIAL MACHINE TO MEASURE TORSIONAL FATIGUE DELIVERED FROM CONTRACTOR. IN-HOUSE FABRICATION OF RUBBER FATIGUE TEST MACHINE WELL ADVANCED AND SHOULD BE COMPLETE BY END OF SEPTEMBER, 1981.	520.0	233.0	228.3	JAN 81	SEP 81
T 80 4392	JOINING DISSIMILAR METALS WELDMENTS USING COMMERCIAL TRANSITION STRIPS FOR JOINING DISSIMILAR METALS WERE SHIPPED TO ABERDEEN FOR BALLISTIC TESTS.	23.0		23.0	MAY 81	SEP 81
4 7T 4568	TECH DATA/CONFIGURATION MANAGEMENT SYSTEM (TD/CMS) ***** DELINQUENT STATUS REPORT *****	500.0	356.6	26.6	JUN 79	DEC 81
T 79 4575	LASER WELDING TECHNIQUES FOR MILITARY VEHICLES A FINAL REPORT WAS STARTED. BALLISTIC TESTING AT APG DELAYED UNTIL FY82.	450.0	280.0	63.0	JUL 81	MAY 82
T 79 4586	IMPROVED LARGE ARMOR STEEL CASTINGS- PHASE 1 BLAW-KNOX AND ROCKWELL INT. HAVE DELIVERED CASTINGS FOR TESTING. ALSO, QUAKER ALLOY CSTG. CO. PROVIDED CASTINGS PRODUCED BY THE ADD PROCESS. PHASE 2 HAS BEEN DISAPPROVED.	663.3	343.4	237.0	OCT 80	SEP 81
T 79 5002	FABRICATING TORSION SPRINGS FROM HIGH STRENGTH STEELS DRAWINGS OF TEST PARTS COMPLETED AND RELEASED FOR PROCUREMENT. TEST SPECIMEN STEEL PARTLY RECEIVED. TEST SPECIMENS WILL BE MADE WHEN ALL MATERIALS ARE ON HAND.	150.0	89.2	48.6	FEB 81	MAR 82
T 78 5014	IMPROVED FOUNDRY CASTINGS UTILIZING CAM THE COMPUTER PROGRAMS ARE COMPLETED. THE SIMULATION RESULTS ARE IN GOOD AGREEMENT WITH TEST RESULTS FOR SIMPLE SHAPED CASTINGS.	415.0	195.5	219.5	JAN 81	AUG 81
T 81 5014	IMPROVED FOUNDRY CASTINGS UTILIZING CAM A SUPPLEMENTAL PROCUREMENT REQUEST HAS BEEN PREPARED.	50.0		15.0	NOV 81	NOV 81
T 80 5019	STORAGE BATTERY, LOW MAINTENANCE-PHASE III BATTERY REQUIREMENTS AND BASIC DESIGN OF STORAGE BATTERY HAS BEEN ESTABLISHED. PREPARATION OF RFP HAS BEEN COMPLETED.	30.0		30.0	DEC 82	SEP 81
T 81 5019	STORAGE BATTERY-LOW MAINTENANCE PREPARATION FOR RFP HAS BEEN COMPLETED AND IS BEING PROCESSED FOR SOLICITATION.	160.0		5.0	JAN 84	JAN 84
T 79 5024	GEAR DESIGN MFG UTILIZING COMPUTER TECHNOLOGY, CAM-PH2 A SET OF COMPUTER PROGRAMS HAVE BEEN DEVELOPED. SEVERAL FINITE PROGRAMS WERE ALSO WRITTEN TO CALCULATE VARIOUS CHARACTERISTICS OF A DIE. THE ABILITY TO ANALYZE TEMP DIFFERENTIALS WAS COMPLETED. SPECS. FOR MACHINING OF ELECTRODES HAVE BEEN GENERATED.	345.0	274.4	52.0	JUN 80	NOV 81

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PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 80 5045	SPALL SUPPRESSIVE ARMOR FOR COMBAT VEHICLES (PHASE II) ALL THREE ARMOR LINER KITS HAVE BEEN MANUFACTURED. ONE KIT HAS BEEN INSTALLED INTO AN M113A1 APC AT YUMA PROVING GROUNDS. FIELD EVALUATION HAS BEGUN.	86.0	56.0	30.0	NOV 81	JUN 82
T 81 5054	LASER SURFACE HARDENED COMBAT VEHICLE COMPONENTS CONTRACTOR EFFORT, FUNDED BY PRIOR YEAR FUNDING, HAS BEEN COMPLETED. A TEST QUANTITY OF TRACK END CONNECTORS AND CENTER GUIDES IS BEING TESTED ON A VEHICLE.	175.0			SEP 83	SEP 83
T 80 5062	ARMORED VEHICLE VISION BLOCKS TACOM MADE A FIXTURE FOR BALLISTICALLY TESTING GLASS/PLASTIC VISION BLOCKS. TESTS WERE MADE BY AMRC AND SHOWED COMPOSITE WINDOWS TO BE SUPERIOR TO HEAVIER AND BULKIER ALL-GLASS BLOCKS.	19.6		12.7	MAY 81	SEP 81
T 79 5064	LIGHT WEIGHT SADDLE TANK-PHASE 2 DUE TO TECHNICALITIES IN PROPOSALS RECEIVED, AWARD OF CONTRACT DELAYED. PROPOSALS HAVE NOW BEEN EVALUATED FROM BIDDERS AND A SUCCESSFUL BIDDER SELECTED.	196.8		82.0	FEB 81	APR 83
T 79 5067	PLASTIC BATTERY BOX BATTERY BOX UNITS FABRICATED AND TESTED BY CONTRACTOR. FINAL SHIPMENT OF HARDWARE MADE AND DELIVERED TO TACOM. WEIGHT REDUCTIONS OF 41 TO 50 PCT OBTAINED. PHASE I NOW COMPLETE.	201.6	97.0	67.4	DCT 79	SEP 81
T 80 5067	PLASTIC BATTERY BOX (PHASE II) TEST PROCEDURES AND SCHEDULES OF TEST SITES HAVE BEEN GRANTED. TEST SAMPLES WERE SHIPPED TO APG, YPG AND CRIC FOR ON VEHICLE TESTS.	15.0		13.0	DEC 80	JUN 82
T 80 5068	NEW ANTI-CORROSIVE MATERIALS AND TECHNIQUES (PHASE I) A PROPOSAL WAS RECEIVED AND EVALUATED. THE PROPOSAL FULFILLED THE REQUIREMENTS OF THE PROGRAM, HOWEVER, THE FY81 FUNDING IS NOT SUFFICIENT TO COVER COSTS. THE FY81 SCOPE OF WORK WILL BE REDUCED AND AN FY83 PROJECT WILL FINISH THE EFFORT.	30.0		30.0	FEB 82	SEP 81
T 81 5068	NEW ANTI-CORROSIVE MATERIALS AND TECHNIQUES (PHASE II) WORK WILL BE INITIATED WHEN THE FY80 PORTION OF THE EFFORT IS COMPLETED.	300.0			SEP 82	SEP 82
T 81 5075	MILITARY ELASTOMERS FOR TRACK VEHICLES (PHASE II) RFP'S SENT OUT AND RESPONSES ARE NOW BEING EVALUATED. THIS PROJECT MAY HAVE BENEFICIAL SPIN-OFFS FOR OTHER ELASTOMER ITEMS.	200.0		10.9	SEP 82	SEP 82
T 80 5082	FLEXIBLE MACHINING SYSTEM, PILOT LINE FOR TCV COMPONENTS PHASE 1 AND 2 HAVE CONCLUDED. PHASE 3 IS CONTINUING THE ACTIVITIES INITIATED IN THE PRIOR PHASES TOWARDS PROVIDING GUIDANCE AND SOFTWARE SUPPORT IN SELECTING AND OPERATING FLEXIBLE MACHINING SYSTEMS.	857.0	813.4	14.3	JAN 81	DEC 81

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T 81 5082	FLEXIBLE MACHINING SYS (FMS) PILOT LINE F/TCV COMPONENTS SEE PROJECT 4 80 5082. THE INDUSTRY GUIDANCE COMMITTEE HAS BEEN FORMED AND WILL BE MEETING REGULARLY TO ASSESS THE PROGRAM AND RECOMMEND DIRECTION. AVCO LYCOMING, G.E. PITTSFIELD, ROCK ISLAND ARSENAL, AND HUGHES AIRCRAFT ARE RECEIVING SUPPORT.	779.0	712.9		MAR 82	MAR 82
T 79 5083	UPSCALING OF ADVANCED POWDERED METALLURGY PROCESSES-PH 3 THE DIE SET HAS BEEN COMPLETED AND ASSEMBLED INTO THE 700 TON PRESS. FORGING TESTS WILL BEGIN IN JULY.	328.0	204.0	84.0	MAR 81	OCT 83
T 78 5085	PRODUCTION TECHNIQUES FOR FABRICATION OF TURBINE RECUPERATOR AN ADDITIONAL LASER WELDING SYSTEM IS BEING PURCHASED. DELIVERY IS SCHEDULED IN 13 MONTHS.	1,047.5	1,005.6	39.2	JAN 80	OEC 82
T 80 5085	TURBINE RECUPERATOR WORK REPORTED UNDER PROJECT 4785085.	133.0	102.1	22.0	OCT 81	SEP 82
T 81 5085	PRODUCTION TECH F/FA8 TURBINE RECUPERATOR WORK REPORTED UNDER PROJECT 4785085.	250.0	215.0		SEP 82	SEP 82
T 79 5090	IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY PROCUREMENT OF REPRESENTATIVE SAMPLES OF COMBAT-UNIQUE METALS WAS COMPLETED BY THE CONTRACTOR AND A PLAN FOR MACHINING OPERATIONS WAS FORMULATED. WORK TOWARD MACHINABILITY DATA WAS INITIATED.	455.0	326.0	39.0	FEB 81	NOV 81
T 80 5090	IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY (PHASE 2) CONTRACTOR MACHINING TESTS CONTINUE. SOME OUTPUT DATA FROM THIS WORK HAS BEEN SUPPLIED TO AVCO-LYCOMING FOR USE IN THEIR MACHINING OPERATIONS.	229.4	229.4		NOV 81	NOV 81
T 81 5090	IMPROVED AND COST EFFECTIVE MACHINING TECHNOLOGY (PHASE 11) THIS PROJECT IS BEING DEFERRED UNTIL FY82. IT WAS ORIGINALLY FUNDED IN THE AMOUNT OF 290K. 100K WAS RETURNED TO DARCOM AND 160K WAS REDIRECTED TO HIGHER PRIORITY PROJECTS.	30.0			DEC 82	DEC 82
T 81 5091	HEAVY ALUMINUM PLATE FABRICATION (PHASE 1) MATERIALS WERE ORDERED AND THE FIXTURES WERE DESIGNED.	30.0		6.0	MAR 84	MAR 84
T 79 5094	ARMOR STEEL TREATED WITH RARE EARTH ADDITIONS PROBLEMS HAVE OCCURRED WITH CONTRACTING THE WORK WITH BATTELLE.	48.0	14.1	27.0	SEP 80	FEB 82
T 78 5097	INTEGRALLY CAST LOW COST COMPRESSOR (PHASE 11) AVCO LYCOMING HAS SUBCONTRACTED THE INVESTMENT CASTING OF 1, 2, AND 3 STAGES OF THE TURBINE COMPRESSOR WHEELS. THE 1ST STAGE WAS WITH HOWMET AND THE 2ND WAS WITH AERO CAST. LOW YIELD PROBLEMS WITH THE 5TH STAGE HAVE NOT BEEN SOLVED.	342.0	267.0	75.0	JUN 80	DEC 82

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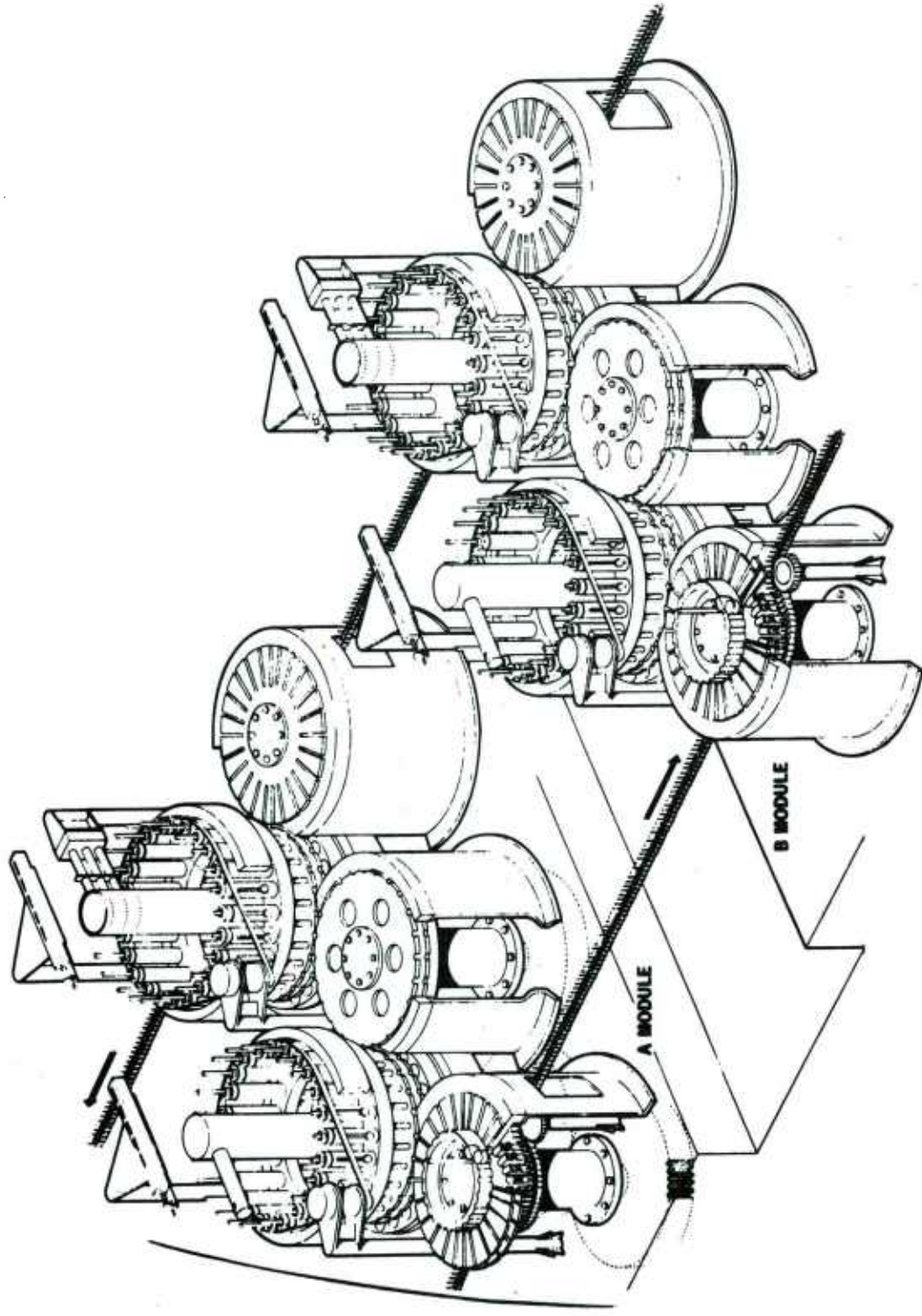
PROJ NO.	TITLE + STATUS	AUTHORIZED	CONTRACT VALUES	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
		(\$000)	(\$000)	(\$000)		
T 81 5097	INTEGRALLY CAST LOW COST COMPRESSOR (PHASE III) COMPRESSOR CASTINGS HAVE BEEN RECEIVED FROM SUBCONTRACTORS. PROPERTY EVALUATION AND MACHINING EFFORTS HAVE BEGUN. LOW YIELD PROBLEMS WITH THE 5TH STAGE MAKE IMPLEMENTATION ON THE AGT-1500 TURBINE DOUBTFUL.	50.0		30.0	DEC 81	DEC 81
T 81 6011	SPRINGS FROM FIBER/PLASTIC COMPOSITES PROCUREMENT OF A CONTRACTOR IS PROCEEDING.	250.0		14.0	JAN 83	JAN 83
T 81 6028	PRODUCTION QUALITY CONTROL BY AUTOMATED INSPECT EQUIPMENT THE CONTRACT PACKAGE FOR THE ON-LINE EVALUATION OF THE ALOS HAS BEEN PREPARED AND THE REQ HAS BEEN RELEASED. CONTRACTOR QUOTE SUBMISSION BY 15 OCT 81 IS ANTICIPATED. AWARD FORECAST IS 15 NOV 81.	60.0	50.0		JUL 82	JUL 82
T 78 6035	ESTABLISH ON-LINE NOT FOR TRACKED COMBAT VEHICLES (PHASE 1) A FEASIBILITY RPT TITLED "REFLECTOR CLASSIFICATION ANALYSIS IN WELOEO PLATES" DATED 2-27-81 DOCUMENTING THE ABILITY TO DISCOVER TYPES OF LINEAR DISCONTINUITIES ACCURATELY. CONDUCTED A MAG PARTICLE INSP CLASS. ALSO INSTALLED AN ULTRASONIC INSP UNIT.	1,832.0	1,630.0	201.3	APR 81	JAN 81
T 79 6038	HIGH DEPOSITION WELOING PROBLEMS AND DELAYS ARE BEING ENCOUNTERED IN STARTING THE PROJECT.	503.0	408.0	37.0	JUL 80	SEP 82
T 81 6053	WELDING SYSTEMS INTEGRATION PR PREPARED AND A CONTRACT IS TO BE AWARDED THE 1ST QUARTER 82.	552.5			SEP 83	SEP 83
T 81 6054	ADVANCED METROLOGY SYSTEMS INTEGRATION THE PROCUREMENT REQUEST HAS BEEN COMPLETED AND SUBMITTED TO PROCUREMENT.	350.0		13.0	MAR 84	MAR 84
T 80 6057	XM1 COMBAT VEHICLE CHRYSLER IS CONSIDERING OFFRACIO LTO OF CANADA AS SUB FOR DIMENSIONAL INSPECTION OF THE HULL AND BORESIGHTING OF GUN.	1,088.0	1,058.0	25.0	OCT 82	JAN 83
T 81 6057	XM1 COMBAT VEHICLE PROCUREMENT REQUEST ISSUED. SOLICITATION RFP RELEASED TO CHRYSLER.	1,567.0		7.0	MAY 82	MAY 82
T 80 6059	LARGE CAST ALUMINUM COMPONENTS SUBTASKS NOT IDENTIFIED.	538.0	523.0	12.0	JUL 81	JAN 82
T 81 6059	M2 AND M3 FIGHTING VEHICLE SYSTEM FMC HAS SUBMITTED A PROPOSAL. CONTRACT NEGOTIATIONS ARE PROGRESSING.	291.0			NOV 84	NOV 84

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T 81 6076	AUTOMATED DEPOT INSPECTION OF ROADWHEELS CONTRACT WAS AWARDED 15 MAY 81. A PRELIMINARY DRAFT HARDWARE DESIGN SPECIFICATION HAS BEEN REVIEWED BY TACOM. THE MATERIAL ORDERING HAS BEEN INITIATED.	247.0	225.0	0.4		SEP 83
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**ARMAMENT R&D COMMAND**  
**ARMAMENT MATERIEL READINESS COMMAND**  
**(ARRADCOM, ARRCOM)**  
**(AMMUNITION)**

A R R C O M - A R R A O C O M (AMMUNITION)

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNOS ( \$ )	* * C O N T R A C T A L L O C A T E D ( \$ )	* * F U N O I N G E X P E N D E D ( \$ )	* * I N H O U S E R E M A I N I N G ( \$ )	* * F U N O I N G E X P E N D E D ( \$ )
75	1	3,106,000	1,624,000	1,624,000 (100%)	1,482,000	1,482,000 (100%)
76	4	2,157,000	1,404,700	1,298,200 ( 92%)	752,300	445,100 ( 59%)
77	1	1,079,000	963,000	918,000 ( 95%)	116,000	116,000 (100%)
77	9	5,172,400	3,509,600	3,109,900 ( 88%)	1,662,800	1,561,200 ( 93%)
78	20	13,056,300	9,089,700	8,068,300 ( 88%)	3,966,600	3,620,700 ( 91%)
79	50	25,975,200	14,585,200	11,083,300 ( 75%)	11,390,000	8,977,300 ( 78%)
80	51	24,553,900	13,969,100	4,979,900 ( 35%)	10,584,800	5,225,700 ( 49%)
81	36	24,799,000	8,828,200	2,444,500 ( 27%)	15,970,800	1,061,200 ( 6%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	172	99,898,800	53,973,500	33,526,100 ( 62%)	45,925,300	22,489,200 ( 48%)
AUTHORIZED FUNDING			CONTRACT ALLOCATED 54%		INHOUSE REMAINING 45%	

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5 80 090D	AUTOMATED MULTIPLE FILTER LIFE TESTER DUE TO PAST DIFFICULTIES, IT HAS BEEN DECIDED TO PERFORM THE WORK IN-HOUSE WITH SUPPLEMENTAL SUBCONTRACTS WHERE TECHNOLOGY CONSULTATION IS REQUIRED. TWO FLOW SCHEMES HAVE BEEN COMPLETED AND ARE MUTUALLY COMPATIBLE, ONE UNIT CAN USE EITHER AGENT.	252.0		58.0	NOV 81	FEB 84
B 80 0915	GROUP TECH REQUIREMENTS DEFINITION ELECTRONICS A CONTRACT TO OIR, INC. IS UNDER NEGOTIATIONS, THIS IS A TRI SERVICE PROJECT FUNDED AT \$60K.	30.0	27.0		DEC 81	JAN 82
5 80 1001	PILOT LINE FOR FUZE FLUIDIC POWER SUPPLIES ***** DELINQUENT STATUS REPORT *****	253.0	202.0	7.0	OCT 81	OCT 81
5 B1 1001	PILOT LINE FOR FUZE FLUIDIC POWER SUPPLIES ***** DELINQUENT STATUS REPORT *****	315.0				
5 80 1003	LOW COST MOLDED PACKAGING FOR HYBRID ELECTRONICS ***** DELINQUENT STATUS REPORT *****	243.0	179.0	12.0	MAY 81	SEP 81
5 80 1005	CERAMIC-METAL SUBSTRATES FOR HYBRID ELECTRONICS ***** DELINQUENT STATUS REPORT *****	319.0	204.0	24.0	OCT 81	MAR 82
5 B1 1019	CONVERSION OF PENTABRANE-REDUCE CARBORANE COST-PHASE II ***** DELINQUENT STATUS REPORT *****	27.0				
5 77 1295	MODERNIZATION OF CHARCOAL FILTER TEST EQUIPMENT A CONCEPT FOR THE FACILITIES REQ WAS PREPARED. THE CSL SAFETY OFFICE PREPARED A SAFETY SITE PLAN AND OBTAINED APPROVAL FROM THE DOD EXPLOSIVE SAFETY BOARD.	240.0	175.0	65.0	AUG 78	AUG 82
5 79 1295	MODERNIZATION OF CHARCOAL FILTER TEST EQUIPMENT THIS EFFORT HAS BEEN DELAYED AS A RESULT OF THE DOD EXPLOSIVE SAFETY BOARD REQ. AS A RESULT, \$500K WAS REPROGRAMMED TO SUPPORT THE XM30 PROTECTIVE MASK. THE RFP IS BEING DELAYED WHILE THE FUNDING LEVEL IS BEING RESTORED.	360.0		54.0	DEC 80	AUG 82
8 78 1296	MT FOR CB FILTERS SP1 CHARCOAL HANDLING EQUIPMENT COMPLETED. SP2 PERFORMED PLATE FILLING MACHINE EVALUATION AND COMPACTION BY VIBRATION PARAMETERS ARE COMPLETE. SP3 FILTER PULSE TEST EQMT WAS BUILT AND EVALUATED. SP4 FINAL RPT ON DUST/HUMIDITY CONTROL WAS COMPLETED.	654.0	291.8	358.2	MAR 79	DEC 80
5 79 1296	MT FOR CB FILTERS SP2 A SIDE FILLING MACHINE FOR FILTERS WAS BUILT AND MODIFIED TO USE VIBRATION AND COMPRESSION TO AID IN FILLING. SP3 FILTER PULSE TESTING DID NOT PROVE TO BE A VIABLE PROCESS CONTROL TEST.	400.0	75.0	324.3	MAY 80	APR 81

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		(\$DDD)	(\$DDO)	(\$DDD)		
5 80 1296	MANUFACTURING TECHNOLOGY FOR CB FILTERS SP2 CONTINUED SIDE FILLING STUDIES INCLUDING INCREMENTAL FILLING WITH VIBRATION UNDER LOAD. SP3 A CONTRACT HAS BEEN AWARDED TO BUILD A PROTOTYPE VELOCITY TRAVERSE TESTER.	404.D	153.D	229.D	MAR 81	FEB 82
5 77 1312	PAPER, CHEMICAL AGENT DETECTOR M8 PROJECT HAS BEEN COMPLETED. FINAL TECH REPORT ARCSL-TR-8D072 PUBLISHED ENTITLED, INCREASING RETENTION OF THE VGH, ABC-M8 CHEMICAL AGENT DETECTOR PAPER INDICATOR PIGMENTS.	118.D		118.0	MAR 78	DEC 80
5 79 1318	CHEMICAL PRODUCTION FILL, CLOSE AND LAP FOR 8 IN XM736 PROJ EFFORTS CONTINUED ON DISTILLATION TESTS FOR RECOVERY OF AMMONIA AND ETHANOL FROM AQUEOUS WASTES. XM736 CANISTER FILL FIXTURE COMPLETED AND SHIPPED TO CSL. FIXTURE TESTING COMPLETED IN APRIL 81.	398.D		398.D	MAR 81	OCT 81
5 80 1318	EST CHEMICAL PROD + FILL CLOSE + LAP TECH F/PROJ 811 VX-2 ADDITIONAL CARBON ADSORPTION WORK ACCOMPLISHED AT LOWER CONCENTRATION OF ORGANICS. DOCUMENTS PREPARED FOR CONTRACT TO CONDUCT PILOT STUDIES ON THERMAL OXIDATION OF ORGANIC WASTES.	484.D	31.D	299.D	JUN 81	OCT 81
5 81 1318	EST CHEM PROD + FILL CLOSE + LAP TECH F/XVX2 XM736 FEASIBILITY STUDIES WERE CONDUCTED ON FURNISHING QL WASTES DIRECTLY TO AN INDUSTRIAL COMPANY WITHOUT TREATMENT. LINE ADAPTATION STUDIES INITIATE AND PROCUREMENT DOCUMENTS FOR MODIFICATION OF LINE FOR BIGEYE BOMB.	216.D		17.D	JUL 82	JUL 82
5 77 1327	IMPROVEMENT AND MODERNIZATION OF GAS MASK LEAKAGE TESTING PROTOTYPE TESTERS WERE MANUFACTURED, TESTED AND MODIFIED. SEVERAL POSSIBLE ALTERNATE AEROSOLS WERE EVALUATED. SOME WERE FOUND TO BE SUITABLE. PROTOTYPES DELIVERED WERE ACCEPTABLE.	305.D	193.D	112.0	MAR 79	JUN 81
8 78 1335	MFG TECH FOR NEW PROTECTIVE MASK A MANUFACTURING PLAN, PLANT LAYOUT, AND DIPEC SEARCH WERE COMPLETED. CONTRACT AWARDED TO MINE SAFETY APPLIANCE FOR PROCUREMENT AND SET UP OF THE PRESES, MOLDS, AND CONTROLS FOR THE PILOT PLANT.	764.0	400.D	307.0	JUN 79	JAN 82
5 79 1335	MAN TECH FOR NEW PROTECTIVE MASK PREPARATION AND PLANNING FOR PILOT PRODUCTION AND PROCESS STUDIES WERE INITIATED. A NEW SCHEDULE WAS PREPARED TO INCORPORATE THE MMT PROGRAM FOR ACQUISITION OF AUTOMATED TEST EQUIPMENT.	672.6		645.D	OCT 82	JUN 82
5 80 1335	MANUFACTURING TECHNIQUES FOR NEW PROTECTIVE MASK PREPARED AND FORWARDED TO PROCUREMENT PURCHASE REQUESTS FOR DIE CAST TOOLS FOR EXHALATION VALVE AND SIDE PORT TO BE ADDED TO MSA CONTRACT.	1,504.D	892.0	394.0	DEC 82	OCT 82

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5 81 1335	TECH FOR NEW PROTECTIVE MASK THIS PROJECT WAS JUST FUNDED. NO ACTIVITY REPORTED.	1,848.0	848.0		OCT 82	OCT 82
5 80 1339	CHEMICAL AGENT DETECTOR PRODUCTION WASTE DISPOSAL M8 DETECTOR PAPER BOOKLETS WERE INCINERATED IN THE CHAINGRATE INCINERATOR AT PINE BLUFF ARSENAL SUCCESSFULLY. STACK GASES WERE MONITORED AND INDICATED NO ORGANIC CPOS WERE RELEASED TO ENVIRONMENT.	240.0	132.0	57.2	SEP 81	SEP 81
8 78 1345	BIOLOGICAL WARNING SYSTEM ALL PROJECT TASKS HAVE BEEN SUCCESSFULLY COMPLETED EXCEPT FOR SORI CONTRACT. SORI HAS PREPARED DRAFT OF FINAL REPORT.	480.0	233.0	247.0	JAN 80	AUG 81
5 79 1345	BIOLOGICAL WARNING SYSTEM ALL PROJECT TASKS HAVE BEEN SUCCESSFULLY COMPLETED EXCEPT THE DOM FOR LUMINOL PURIFICATION AND THE WASH STATION EVALUATIONS WHICH ARE IN PROGRESS.	525.0	229.0	296.0	OEC 80	AUG 82
5 80 1345	BIOLOGICAL WARNING SYSTEM ALL PROJECT TASKS HAVE BEEN SUCCESSFULLY COMPLETED EXCEPT FOR THE PREMIX TESTING EVALUATION, THE REFILL KIT ITEMS TESTING EVALUATION, DOM VERIFICATION TESTS, AND DOCUMENTATION WHICH ARE IN PROGRESS.	463.0	170.0	145.0	SEP 82	SEP 82
5 80 1348	SUPER TROPICAL BLEACH THE SMRI CONTRACT TO ESTABLISH THE PROCESS OPERATING CONDITIONS AND EVALUATE CHLORINATABILITY OF VARIOUS HYDRATED LIMES WAS COMPLETED. THE LIQUID-LIQUID DOUBLE SALT PROCESS WAS EVALUATED.	202.0	174.3	26.7	MAR 81	JAN 82
5 81 1348	SUPER TROPICAL BLEACH PLANS WERE MADE TO AWARD CONTRACT TO BATTELLE TO EVALUATE THE LIQUID-LIQUID DOUBLE SALT PROCESS.	822.0		2.2	APR 84	APR 84
5 78 1353	SMOKE MIX PROCESS (GLATT) COMPLETED TEST PROGRAM TO CONFIRM FORMULAS + DETERMINE OPERATIONAL PARAMETERS IN THE FULL SCALE GLATT GRANULATOR. INITIATED 12 WEEK ENVIRONMENTAL STORAGE AND LONG TERM AMBIENT STORAGE TEST. INITIATED PREPARATION OF FINAL TECHNICAL REPORT.	416.6	18.0	397.2	OCT 80	AUG 81
5 79 1354	SLOUGE VOLUME REDUCTION AND DISPOSAL PROCESS STUDY DESIGN FOR PRE-CLARIFICATION/EQUALIZATION IMPLEMENTED INTO MCA-83 PROJECT FOR POLLUTION ABATEMENT MDO. SAME FOR CYANIOE TREATMENT AND SLOUGE DEWATERING. PILOT DEWATERING RUNS YIELOEO SLUDGE CAKE DRY ENOUGH FOR LANDFILL DISPOSAL. PROJ NEAR COMPLETE.	122.0		118.1	SEP 80	SEP 81



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5 80 1354	SLUDGE VOLUME REDUCTION AND DISPOSAL PROCESS STUDY SLUDGE PROCESS DESIGN IMPLEMENTED BY INCLUSION IN MCA-83 MOD OF POLLUTION ABATEMENT FACILITIES PROJECT (SLUDGE DEWATERING FACILITY). DESIGN OF PILOT DEWATERING EQUIPMENT IN CENTRAL WASTE WATER TREATMENT FACILITY IS IN PROGRESS.	156.0		104.3	DEC 80	SEP 82
5 81 1354	SLUDGE VOLUME REDUCTION AND DISPOSAL PROCESS REVIEWED RCRA REGULATIONS FOR HAZARDOUS SLUDGE DISPOSAL. DEWATERED SLUDGE SAMPLES CHARACTERIZED FOR RCRA HAZARDOUS WASTE PROPERTIES.	110.0			SEP 83	SEP 83
5 79 1355	MANUFACTURING PLANT TOXIC EFFLUENT/EMISSION PRETREATMENT INSTALLED A CONTINUOUS BIOMONITORING UNIT TO DETERMINE THE TOXICITY OF PBA EFFLUENTS. A CONTRACT WAS ISSUED TO CONDUCT TOXICITY TESTS OF PBA EFFLUENTS.	104.0	52.0	51.8	JAN 81	DEC 81
5 80 1355	MANUFACTURING PLANTS TOXIC EFFLUENT/EMISSION PRETREATMENT PILOT SCALE EVALUATION WAS INITIATED FOR CARBON AND ION EXCHANGE TREATMENT OF PBA INDUSTRIAL WASTE. CYANIDE WAS FOUND IN THE INCINERATOR SCRUBBER WATER. A CYANIDE REMOVAL PROCESS IS BEING INVESTIGATED.	222.0		55.6	DEC 81	DEC 81
5 79 1403	IMPROVED PROC/SUBSTITUTION OF NONTOXIC DYES-M18 SMK GRENADES COMPLETED FINAL PERFORMANCE TESTING AND HAZARDS CLASSIFICATION TESTING OF IMPROVED GRENADES. BEGAN REVISION OF THE M18 GRENADE DYE SPECIFICATIONS.	315.0		270.0	JUN 81	SEP 81
5 81 1500	EVAL INDUST CAPABILITY F/LOAD COMMERCIAL EXPL-HIGH USE MUNIT AN INDUSTRY PRE-SOLICITATION CONFERENCE HELD AND AN RFP ISSUED FOR THE FY81 CONTRACT EFFORT.	473.0		1.0	SEP 82	SEP 82
5 79 1903	DIE CAST TAILCONE + DESIGN MACHINE FOR BLU-96/B ***** DELINQUENT STATUS REPORT *****	450.0	426.0	24.0	APR 80	DEC 81
5 80 1903	DIE CAST TAIL CONE + DESIGN MACHINE FOR BLU-96/B ***** DELINQUENT STATUS REPORT *****	1,176.0	1,140.0	10.6	MAR 81	DEC 81
5 79 1905	PBX CONTINUOUS CASTING FOR MUNITIONS LOADING PLANT LAYOUTS, EQUIPMENT LISTINGS, AND A PRELIMINARY HAZARDS ANALYSIS HAVE BEEN COMPLETED. THE FINAL REPORT WILL BE SUBMITTED BY THE CONTRACTOR IN MID-JULY.	250.0	94.5	110.5	DEC 80	AUG 81
5 81 1907	AUTOMATED GAGING FOR MED. CAL. PROJ. BODIES (CAM) ***** DELINQUENT STATUS REPORT *****	625.0				



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1ST SEMIANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 78 3907	MNDS COUNTER-MEMDRY CIRCUIT FOR FUZES ***** DELINQUENT STATUS REPORT *****	300.0	273.7	25.0	SEP 79	DEC 81
5 79 3960	PROTOTYPE PDN EQUIP FOR PRINTED CIRCUIT 80ARDS ***** DELINQUENT STATUS REPORT *****	405.0	170.0	94.0	DEC 79	SEP 81
5 79 3961	IMPROVED 3-0 VIBRATION ACCEPTANCE TEST FOR ART FUZES ***** DELINQUENT STATUS REPORT *****	282.0	192.0	69.0	SEP 81	DEC 81
5 80 3961	IMPR (3-0) VIB ACCEPT TSTNG F ART FUZES AND S/A MECHANISMS ***** DELINQUENT STATUS REPORT *****	352.0	282.0	4.0	SEP 82	JUN 82
5 81 3961	IMPRVD VIBR ACCEPTANCE TESTING F/M732,XM587/724 FUZES ? S?A ***** DELINQUENT STATUS REPORT *****	253.0				
5 79 4000	AUTOMATED M55 DETONATOR PRODUCTION EQUIPMENT THE FINAL DEBUG AND TEST OF THE CUP INSPECTION MODULE WAS DELAYED BY ELECTRONIC COMPONENT FAILURE. DEBUG AND TEST OF THE CRITICAL INSPECTION STATION IS CONTINUING. MATERIAL HANDLING SYSTEM WAS TESTED SUCCESSFULLY. SYSTEM HAZARD ANALYSIS REPORT.	1,662.4	780.8	857.3	MAR 81	SEP 81
5 80 4000	AUTOMATED M55 DETONATOR PRODUCTION EQUIPMENT LIAISON AND SUPPORT FOR CONTRACTORS, GOCO'S AND OTHER IN-HOUSE SEGMENTS WAS MAINTAINED FOR TASKS BEING PURSUED AS DELINEATED UNDER FY79 FUNDS.	250.0	20.0	230.0	MAR 81	SEP 81
5 81 4000	AUTOMATED M55 DETONATOR PRODUCTION EQUIPMENT MONITORING OF ACTIVE CONTRACTS,CONTINUING. THE PALLET INDEXER SECTION OF THE MATERIAL HANDLING SYSTEM WAS TRANSPORTED TO MRC CORPORATION TO ASSIST THEM IN FINALIZING DETAILS OF INTERFACING HARDWARE.	604.0	268.0	61.8	SEP 81	SEP 81
5 79 4024	DSN DEV 8LD PROT CMP AND AUTO ASSY MACH M223 FZ CONTRACT WAS AWARDED TO INNOVA, INC. CONCEPT DESIGNS WERE REVIEWED, AND DETAIL DESIGNS WERE INITIATED. SCREW AND WEIGHT ASSEMBLY MACHINE AND SLIDE ASSEMBLY MACHINE DESIGNS WERE COMPLETED.	1,132.0	945.1	133.4	SEP 81	JUN 82
5 81 4027	COMBINED SOLVENT RECOVERY/DRYING OF S-8 PROPELLANT ***** DELINQUENT STATUS REPORT *****	337.0				
5 80 4033	CAUSTIC RECOVERY FROM SODIUM NITRATE SLUDGE A CONTRACT WAS AWARDED TO HAYES, SEAY, MATTERN AND MATTERN TO EVALUATE ALTERNATIVES TO EXISTING SODIUM NITRATE RECOVERY INSTALLATION. AMMONIA NEUTRALIZATION PROCESS IS MOST PROMISING.	153.0	29.7	90.5	JAN 81	MAR 82

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		(\$DOD)	(\$DOD)	(\$DOD)		
5 80 4037	PROCESS IMPROVEMENT FOR PLASTIC-BONDED EXPLOSIVES LAB TESTS INDICATE THAT COMP C-4 CAN BE DRIED WITH A BELT FILTER WITH HOT AIR APPLIED TO THE TOP SURFACE. IT ISNT CONSIDERED COST EFFECTIVE. CONICAL MIXER/DRYER IS PLANNED TO BE USED TO TEST BLENDING CL 1 OR 3W/CL 5 RDX. FUTURE WORK UNDER PROJ 4449.	255.8	204.8	30.0	DEC 81	SEP 82
5 78 4041	AUTO EQUIP FOR ASSY OF MORTAR COMPONENTS CONTRACTOR WORKED ON COMPLETING DOCUMENTATION REQUIRED (FORM 1423). EQUIPMENT TRANSFERRED TO MILAN ARSENAL FOR MODIFICATION BY ARRADCOM CONTRACTOR (INNOVA) PRIOR TO SHIPMENT TO MAAP. THIS WILL BE ACCOMPLISHED UNDER SEPARATE MAAP CONTRACT TO INNOVA.	867.0	660.4	195.2	JUL 79	SEP 81
5 79 4046	QUANTITATIVE ANAL. OF BLENDED EXPLOS. SAMPLES EXTENSIVE EFFORT TOWARD THE DEVELOPMENT OF A PROCESS TO ANALYZE PA-100 VIA THE POLAROGRAPH PROVED UNSUCCESSFUL. FINAL CONFIRMATORY TESTING OF NOL-130 PRIMER MIX WILL BE ON LONE STAR POLAROGRAPH. REPAIRS ON THIS INSTRUMENT NOW IN PROGRESS.	307.0	70.0	223.0	NOV 80	SEP 81
5 79 4059	OPTIMIZATION - NITROGUANADINE IN M3D PROPELLANT AN ON-LINE SLURRY PARTICLE SIZE MONITOR WAS OPERATED IN CONJUNCTION WITH A NITROGUANADINE CRYSTALLIZER. OUTPUT DATA ARE BEING CORRELATED WITH DATA FROM AIR PERMEABILITY METHOD REQUIRED BY THE PRODUCT SPECIFICATION.	271.0	241.0	25.1	MAR 81	MAR 82
5 81 4059	CONTROL OF NQ CRYSTALLIZATION AN INVESTIGATION OF THE AGGLOMERATION OF NITROGUANADINE PARTICLES WAS BEGUN.	190.0	1.5	11.0	SEP 82	SEP 82
5 80 4061	NITROGUANADINE PROCESS OPTIMIZATION OPERATING EXPERIENCE OF THE NSE DURING PROVE OUT CONTINUES TO BE CLOSELY FOLLOWED. THE INTERIM TEST PLAN FOR FY81 HAS BEEN PREPARED, AND THE FY81 SCOPE OF WORK SUBMITTED.	254.0	189.0	62.0	MAY 81	DEC 81
5 81 4061	NITROGUANADINE PROCESS OPTIMIZATION ACTIONS WERE TAKEN TO TRANSFER FUNDS TO THE GOCO. THE FY82 SOW WAS PREPARED AND STAFFED FOR APPROVAL. MILESTONES WERE REVISED TO REFLECT THE DELAYS CAUSED BY MECHANICAL FAILURES DURING THE NSE PROVE-OUT.	905.0	795.0	23.0	DEC 82	DEC 82
5 79 4062	AUTO MFG SYSTEM FOR MORTAR INCREMENT CONTAINERS THE MMT PROGRAM WAS RESTRUCTURED BASED ON AN FY81 SUPPLEMENTAL FUNDING REQUESTED FOR \$725,000 AND THE DETERMENT OF THE PAPER MOLDING BASED MANUFACTURING SYSTEM PHASE II AND PHASE III CONTRACT EFFORTS UNTIL FY82.	507.0	12.4	331.0	APR 82	JUL 83

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5 8D 4062	AUTO MANUFACTURE SYS F/MORTAR INCREMENT CONTAINERS THE SLURRY VACUUM FORMING AND PAPER MOLDING BASED MANUFACTURING SYSTEM DETAIL PACKAGES HAVE BEEN COMPLETED. THE ASSEMBLY SYSTEM DESIGN IS APPROXIMATELY 60% COMPLETE.	884.0	884.0		OCT 81	JUL 8D
5 81 4062	AUTO MANUFACTURE SYS F/MORTAR INCREMENT CONTAINERS ARMEC HAS BEEN AWARDED THE PRODUCTION PROCESS OPTIMIZATION EFFORT FOR SLURRY VACUUM FORMED 81MM M2D5 CONTAINERS. FMC CORP. HAS RECEIVED A PREAUTHORIZATION CONTRACT FOR THE C-0329 PHASE II EFFORT.	1,693.0	1,439.1		JUL 83	JUL 83
5 79 4064	AUTO LAP OPERATIONS FOR 105MM TANK CARTRIDGES A PRODUCTION LINE SYSTEM FOR THE AUTOMATED LOAD AND ASSEMBLY OF 105MM TANK CARTRIDGES HAS BEEN DESIGNED. THE TOP IS IN VARIOUS STAGES OF DETAIL DESIGN EXECUTION AND VERIFICATION. PROJECT COMPLETION MAY BE HAMPERED BY CONTRACTUAL PROBLEMS.	1,277.0	1,024.7	230.3	SEP 80	SEP 81
5 79 4084	OPACITY/MASS EMISSION CORRELATION EXTENSIVE TESTING AT SAAP ESTABLISHED A CORRELATION BETWEEN MASS EMISSIONS AND OPACITY. A FINAL REPORT HAS BEEN PREPARED PROVIDING TEST PROCEDURES AND RESULTS.	121.0	92.5	28.5	JUN 81	SEP 81
5 8D 4084	OPACITY/MASS EMISSION CORRELATION CONFIRMATORY TESTING AT FLINCHBAUGH, RED LION INDICATED CORRELATION BETWEEN MASS EMISSIONS AND OPACITY OF LARGE CALIBER FORGING EXHAUSTS. A FINAL TECHNICAL IS BEING PREPARED.	111.0	10.0	101.0	JUN 81	SEP 81
5 79 4124	FABRICATION OF CONTROL ACTUATION SYSTEM HOUSINGS PHASE I WHICH CONSISTED OF A STUDY OF MANUFACTURING PROCESSES AND SOFTWARE PROGRAMMING WAS COMPLETED. PHASE II INVOLVING THE FABRICATION OF TOOLING AND SOFTWARE STARTED IN MAY 1980.	930.0	786.2	79.3	JUN 80	DEC 82
5 8D 4137	AUTOMATED LOADING OF CENTER CORE IGNITERS A PRELIMINARY SCOPE OF WORK WAS DRAFTED. EFFORT TO FINALIZE SCOPE OF WORK WAS TERMINATED AFTER PBM INDICATED FACILITY PROJECT FOR THE EQUIPMENT WOULD NOT BE FUNDED BECAUSE THE CENTER CORE IGNITER MAY BECOME OBSOLETE.	67.0		64.8	JUN 81	MAY 81
5 78 4139	APPLICATION OF RADAR TO BALLISTIC ACCEPTANCE TEST OF AMMO THIS PROJECT IS NOW ADDRESSING PHASE II KNOWN AS THE FY80/81 ENHANCEMENT PROGRAM. THE OBJECTIVE OF THE PROGRAM IS TO IMPROVE THE PERFORMANCE OF AR8AT 8Y UPGRADING HARDWARE AND SOFTWARE. SEE MMT PROJECT 5 79 4139.	1,565.0	1,293.7	271.3	FEB 79	DEC 81
5 79 4139	APPL OF RADAR TO BALLIST ACC TESTG OF AMMO-AR8AT THE LATEST CONTRACT AWARD WAS MADE DURING MAY 81. THE SOM IDENTIFIES THREE MAJOR EFFORTS, 1. UPDATE SOFTWARE, 2. DOCUMENTATION CONFIGURATION, 3. UPDATE HARDWARE. SOFTWARE CHANGES ARE SHOWING GOOD RESULTS.	763.8	735.6	28.2	SEP 79	DEC 82

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5 81 4145	CONTROL OF DRYING IN AUTOMATED S8 AND BALL PROPELLANTS MFG A SURVEY OF PROCESS INSTRUMENTATION (GAS CHROMATOGRAPH, FLOW RECORDERS, ETC.) HAS BEEN INITIATED. SCOPE OF WORK HAS BEEN PREPARED AND RELEASED.	327.0	212.0	29.0	JUN 82	JUN 82
5 78 4149	LOADING OF 30MM AGEN/DEFA HEDP AMMUNITION A FINAL REPORT FOR THE PROCESS WAS PREPARED. TESTING AND FINALIZATION OF THE PROJECT IS PROGRESSING ON SCHEDULE.	500.0	405.7	92.8	MAY 79	DEC 81
5 78 4150	NEW MANUFACTURING PROCESSES FOR SAWS AMMUNITION THIS PROJECT WAS COMPLETED WITH THE DELIVERY OF TOOLS FOR COLO HEADING AND SKEWED AXIS ROLL FORMING OF THE XM777 PENETRATORS. THE REQUIREMENT FOR XM777 PENETRATORS NO LONGER EXISTS THEREFORE THE USEFULNESS OF THIS TOOLING IS IN QUESTION.	61.4	28.5	26.4	SEP 80	JUN 81
5 79 4150	NEW MANUFACTURING PROCESSES FOR SMALL CALIBER PENETRATORS DEVELOPMENT OF THE PROTOTYPE XM855E1 IS PROCEEDING ON SCHEDULE. DEBUG AND EVALUATION IS SCHEDULED FOR COMPLETION IN AUG 1981. FINAL PROTOTYPE DEMONSTRATION WILL OCCUR IN AUG 1981.	376.0	220.0	135.7	MAR 81	MAR 81
5 80 4150	NEW MANUFACTURING PROCESSES FOR SAWS AMMUNITION DEMONSTRATION OF PENETRATOR MANUFACTURING PROTOTYPES ARE SCHEDULED FOR COMPLETION BY JULY. DEMONSTRATION OF A COMPLETE BULLET MANUFACTURING PROTOTYPE IS SCHEDULED TO BE INITIATED AT LCAAP IN SEPT 81.	489.0	141.0	151.1	JUN 82	SEP 81
5 81 4150	NEW MANUFACTURING PROCESSES FOR SMALL CALIBER PENETRATORS A CONTRACT SCOPE OF WORK WAS WRITTEN BY ARRADCOM FOR INSTALLATION OF THE SKEWED AXIS ROLL FORMING PROCESS EQUIPMENT AT LCAAP. INITIAL CONTACT WAS MADE WITH THE KINEFAC CORPORATION IN PREPARATION FOR DEVELOPMENT OF DD 633 COST ESTIMATES.	211.0		27.7	JUL 82	JUL 82
5 80 4189	HIGH FRAGMENTATION STEEL PRODUCTION PROCESS 234 FORGINGS ARE MADE. MULT SIZE REDUCTION IS BEING ATTEMPTED. PRELIMINARY MACHINING HAS BEGUN. INCORPORATION OF MATH MODEL IN FORGING DESIGN IS UNDERWAY.	1,048.0	550.7	343.0	JAN 81	MAR 82
5 81 4200	TNT CRYSTALLIZER FOR LARGE CALIBER MUNITIONS THE PROGRAM WAS CANCELLED. BEFORE CANCELLATION A SCOPE OF WORK WAS PREPARED AND 81DS WERE EVALUATED TO PERFORM A HAZARD ANALYSIS. A CONCEPT DESIGN, AND A DETAIL DRAWING PACKAGE FOR A NEW TNT CRYSTALLIZER SYSTEM BEFORE CANCELLATION.	27.0		27.0	DEC 81	DEC 81
5 80 4210	DRY CUTTING OF ENERGETIC MATERIALS APPROVAL HAS BEEN RECEIVED TO CHANGE HAZARDS CLASSIFICATION OF 8ENITE FROM 1.1 TO 1.3 (BURNING HAZARD). SAFETY SITE SUBMISSION APPROVAL RECEIVED. CONTRACT PLACED TO PURCHASE A FLUID JET CUTTER.	448.7	336.7	67.0	MAY 82	JUN 82

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5 79 4214	POLLUTION ENGINEERING FOR 1983-85 REQUIREMENTS PROJECT 5XX4214 IS AN ORDERLY TRANSITION OF PROJECT 5XX4114 POLLUTION ABATEMENT METHODS FOR P AND E AND IS DIRECTED TO MEETING FUTURE STANDARDS. REFER TO INDIVIDUAL TASKS FOR ANY CHANGES AND/OR ADDITIONAL INFORMATION PERTINENT TO THE PROJECT.	1,269.0	535.5	707.9	SEP 80	JUN 82
5 79 4214 P1	TECHNOLOGY REQUIREMENTS TEST BATCH OF S8 PROPELLANT MADE FROM ACETONE/ETHANOL INSTEAD OF ETHER/ETHANOL IS BEING DRIED PRIOR TO EVALUATION. DRAFT TR OF TESTING FOR REMOVAL OF NOX FUMES BY SCRUBBING WITH H2D2 IN HND3 COMPLTD. DESIGN CRITERIA FOR NOX REMOVAL FROM HND3 DEVLDPD.	367.0	142.0	225.0	SEP 79	DEC 81
5 79 4214 P2	IN-PLANT REUSE OF POLLUTION ABATED WATERS FINAL TR FOR KAAP INDICATES FEASIBILITY OF RECYCLE/REUSE OF POLLUTION ABATED WATERS. PILOT PLANT WASTEWATER TREATMENT AT RAAP CONTINUES USING SIMULATED PROPELLANT AREA WASTEWATER CONTAINING ALCOHOL, DNT, DPA, DBP AND INDRGANIC NITRATES.	449.0	278.5	153.0	JUL 80	DEC 81
5 79 4214 P3	LOW COST SYSTEM TO ABATE NITRO80DDY POLLUTION FINAL TR'S ON THE TREATMENT OF PINK WASTEWATER ARE BEING PREPARED. EA SHOWS TREATMENT COST OF \$11.54/10DD GAL WASTEWATER USING AIR AS OZONE SOURCE. EA ALSO SHOWS \$7.63/10DD GAL USING LIQUID OXYGEN AS THE OZONE SOURCE WHEN TREATING TNT TO 0.1 MG/LTR.	325.0	45.0	271.4	MAR 80	MAR 82
5 79 4214 P4	NG-NITRATE ESTER REMOVAL BY ABSORPTION/RECYCLE FOUR TESTS OF THE MODIFIED 2-8ED DOWNFLOW ADSORPTION/DENITRATION SYSTEM AND EVALUATION OF ALTERNATE DENITRATION SOLUTIONS WERE PERFORMED. SMALL LAB SCALE STUDIES TO OBTAIN ISOTHERM AND DENITRATION DATA ON DEGON-LOADED RESINS WAS INITIATED.	128.0	70.0	58.0	SEP 80	JUN 82
5 80 4225	RED WATER POLLUTION ABATEMENT SYSTEM HYDROCYCLONE AND SELLID 80WL CENTRIFUGE TESTS PERFORMED ON SEVERAL ASH SLURRY COMPOSITIONS. A SULFITE RECOVERY PROCESS FLOW PLAN, AND MASS/ENERGY BALANCES WERE COMPLETED AND PROVIDED BY THE CONTRACTOR.	154.4	68.5	84.0	MAY 81	MAR 82
5 81 4225	RED WATER POLLUTION ABATEMENT SYSTEM AN INTENSIVE REVIEW OF THE SULFITE RECOVERY PROCESS WAS ACCOMPLISHED DURING PRE-DESIGN MEETINGS. THE REPORT AND ATTACHMENTS WILL FORM AN ADDENDUM TO THE PD8 FOR THE MCA FACILITY.	160.0	60.0	25.0	MAR 83	MAR 83
5 80 4226	ON-LINE MONITORS FOR WATER POLLUTANTS ELECTROCHEMICAL ANALYZER OPERATED SUCCESSFULLY UNDER LAB CONDITIONS. RAMAN ANALYZER REASSEMBLED, ALIGNED AND OPERATED SUCCESSFULLY WITH DILUTE SOLUTION OF ACETONE IN WATER. HAZARDS ANALYSIS OF INSTRUMENT NEARING SOLUTION.	98.2	48.2	50.0	NOV 81	DEC 81

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5 B1 4226	ON-LINE MONITORS FOR WATER POLLUTANTS FINAL SOM PREPARED TO INCLUDE ON-LINE EVALUATION OF NEW INSTRUMENTS AND THE DESIGN OF A PROCESS CONTROL SYSTEM FOR THE SULFITE RECOVERY PROCESS (SRP). SOM FORWARDED TO ARRCOM IN MAY 1981.	439.0	325.0	56.1	SEP 82	SEP 82
5 B0 4231	IN-PLANT REUSE OF POLLUTION ABATED WATERS ANALYSIS OF ALL OUT-OF-PLANT DISCHARGE WASTEWATERS FROM LAAP HAS BEEN COMPLETED. WATER QUAL CRITERIA FOR EVENTUAL RECYCLE/REUSE BEING GENERATED. PILOT SCALE WORK AT KAAP FOR TREATMENT OF COMP B AND COMP A-S CONTAM H2O FOR RECYCLE/REUSE CONTINUING.	239.5	153.0	86.5	JUL 81	DEC 81
5 B1 4231	IN-PLANT REUSE OF POLLUTION ABATED WATERS SCORES OF WORK (SOM) HAVE BEEN FINALIZED AND CONTRACTS AWARDED AT LOUISIANA AAP, LONE STAR AAP AND MILAN AAP.	464.0	305.0	31.4	JUN 83	JUN 83
5 B0 4266	MFG, IHSP AND TEST EQUIPMENT FOR MAGNETIC POWER SUPPLY SEE PROJECT 5 B1 4266 FOR STATUS.	345.0	270.0	71.0	JUL 82	JUN 83
5 B1 4266	MANUF, INSPECT + TEST EQUIP F/MAGNETIC POWER SUPPLY PHASE II OF THE CONTRACT WHICH PROVIDES FOR THE FABRICATION, INSTALLATION AND DEBUGGING OF THE EQUIPMENT HAS BEEN NEGOTIATED AND IS EXPECTED TO BE AWARDED IN JUNE 1981.	759.0		65.0	SEP 83	SEP 83
5 77 4267	CONTINUOUS PROCESS FOR GRANULAR COMPOSITION B INERT AND LIVE PRILLING TESTS USING COMP 8 WERE PERFORMED AT SKI WITH A TWO-FLUID NOZZLE AND A ROTATING DISC. A PILOT PLANT DESIGN RFQ WAS ADVERTISED WITH NO BIDS RECEIVED. LSAAP WAS DIRECTED TO DESIGN THE PLANT IN-HOUSE.	497.0	426.3	70.7	SEP 79	DEC 81
5 7B 4267	CONTINUOUS PROCESS FOR GRANULAR COMPOSITION B THE FUNDING FOR THIS EFFORT WAS CANCELLED AND TRADED OFF TO OTHER MMT PROJECTS. THE SCOPE OF THIS WORK WAS INCLUDED IN THE FYB2 MMT PROJECT.	254.0		193.7	MAR 81	DEC 81
5 7B 4281	ENERGY SAVING AT ARMY AMMO PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,059.4	750.1	183.8	MAR 80	SEP 81
5 7B 4281 A08	CAVITATIONAL REMOVAL OF EXPLOSIVES IOWA AAP RAN A SERIES OF 16 TESTS USING A NOZZLE OF THEIR OWN DSGN. THE TEST SETUP WAS THE SAME AS THE ONE USED WITH THE CAVITATIONAL NOZZLE. THE RESULTS WERE DUPLICATED. THE TESTS INCLUDED WASHOUT OF BOTH THE 155MM + 175MM SHELLS WITH GOOD RESULTS.	296.0	275.0	21.8		SEP 81



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5 79 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,285.0	695.4	588.5	JUL 80	DEC 82
5 79 4281 A01	PROCESS ENERGY INVENTORY COMPREHENSIVE PROCESS ENERGY INVENTORIES WERE PERFORMED ON THE THREE MOST ACTIVE LOADING LINES AT IOWA AAP. THE ENERGY CONSUMPTION BASELINES ESTABLISHED SHOW A POTENTIAL ENERGY CONSERVATION OPPORTUNITY OF 980 MBTU REDUCTION IN PROCESS ENERGY.	242.0	119.9	122.1	JUL 80	DEC 81
5 79 4281 A02	OPTIMIZED INSULATION A COMPOUND INSULATING SCHEME WAS SUCCESSFULLY APPLIED TO THE SIDEWALL OF AN NC BOILING TUB. SAVINGS OF \$39K PER YR CAN BE OBTAINED AT CURRENT PRODUCTION LEVELS IF THE 15 TUBS CURRENTLY BEING UTILIZED ARE INSULATED.	193.0	103.0	90.0	OCT 79	MAR 82
5 79 4281 A03	SYNTHETIC NATURAL GAS FOR PROCESS OPERATIONS A COMPREHENSIVE SURVEY OF FUEL REQUIREMENTS FOR PROCESS OPERATIONS AT RAOFORD AAP AND AN ENGINEERING EVALUATION OF COAL GASIFICATION PROCESSES AND RELATED TECHNOLOGY WERE COMPLETED. A FINAL TECHNICAL REPORT WAS BEGUN.	208.0	189.0	19.0	SEP 79	JUN 82
5 79 4281 A04	ENERGY RECOVERY FROM WASTE HEAT A CONTRACT WAS LET WITH DYNATHERM CORP TO CONSTRUCT THE HEAT PIPE EXCHANGER FOR THIS PROJECT. RAAP HAS TESTED CHLORINATED POLYETHYLENE TO DETERMINE ITS SUITABILITY FOR USE AS A PROTECTIVE COVER FOR THE INSULATION ON THE TOPS OF THE STORAGE TANKS.	515.0	259.0	276.0	JUN 80	DEC 82
5 79 4281 804	WASTE HEAT RECOVERY A CONCEPT WAS SELECTED FOR A WASTE HEAT BOILER SYSTEM CAPABLE OF PRODUCING STEAM FROM THE EXHAUST OF TWO FORGE FURNACES. GENERAL ENGR DRWNGS AND EQUIPMENT SPECS WERE PREPARED FOR THIS SYSTEM AND A FINAL REPORT DRAFTED.	127.0	44.5	81.4	AUG 79	JUN 81
5 80 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,230.5	890.0	311.4	JUN 82	MAR 84
5 80 4281 A01	PROCESS ENERGY INVENTORY THE AUDIT METHODOLOGY FOR LINE 1 AND 2 AT IOWA AAP WAS ESTABLISHED AND INSTALLING INSTRUMENTS WAS BEGUN. A TECH RPT TITLED "PROCESS ENERGY INVENTORY AT KANSAS AAP" WAS PUBLISHED AND DISTRIBUTED.	494.5	334.5	131.4	DEC 81	DEC 82
5 80 4281 A04	ENERGY RECOVERY FROM WASTE HEAT THE CONTRACTOR IS CONSTRUCTING A HEAT PIPE EXCHANGER FOR USE WITH THE NC BOILING TUBS. CONCEPTUAL DESIGN FOR THE HEAT RECOVERY SYSTEM FOR THE KETENE GAS COOLDOWN WAS COMPLETED. PURCHASE REQUISITIONS FOR REQUIRED MATERIALS WERE ISSUED.	517.6	369.0	78.0	JUL 81	DEC 82

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5 80 4281 A06	UNCOOLED PRODUCER GAS FOR KETENE MANUFACTURE ENGR DSN FOR THE BENCH SCALE TEST SET-UP WAS COMPLETED. EQUIPMENT PROCUREMENT WAS INITIATED. THE EQUIPMENT WILL INCLUDE A FIREBRICK FURNACE, A BURNER NOZZLE AND A BOOSTER FAN.	292.4	190.4	102.0	JUN 82	MAR 84
5 81 4281	CONSERVATION OF ENERGY AT ARMY AMMUNITION PLANTS SEE THE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,207.0	170.3	59.5	SEP 84	SEP 84
5 81 4281 A04	ENERGY RECOVERY FROM WASTE HEAT ACTIONS WERE BEING TAKEN TO TRANSFER FUNDS TO A GOCO.	369.0		31.4		
5 81 4281 A06	UNCOOLED PRODUCER GAS FOR KETENE MANUFACTURE THE SOW FOR THE SECOND YEAR EFFORT WAS ACCEPTED BY HOLSTON AAP.	150.0	76.6	12.8	MAR 84	MAR 84
5 81 4281 A08	CAVITATIONAL REMOVAL OF EXPLOSIVES THE CONTRACT SOW WAS ACCEPTED BY IDMA AAP AND THE PILOT PLANT DESIGN WAS BEGUN.	231.0	175.0	6.9	JUN 83	JUN 83
5 81 4281 A10	USE OF BIOMASS AS ENERGY SOURCES AT ARMY AMMUNITION PLANTS HNO, COE WAS FUNDED FOR A CONTRACTURAL SUPPORT EFFORT, IN-HOUSE LABOR AND GOCO SUPPORT. THEY ARE PREPARING A SOW AND ARE ALSO CHECKING THE STATUS OF OTHER ENERGY AUDITS. THE THREE GOCOS SELECTED FOR STUDY WERE KANSAS, INDIANA, AND MILAN.	263.0		4.6	SEP 83	SEP 83
5 81 4281 A12	POWER PRODUCTION FROM WASTE HEAT FY81 FUNDS WERE OBLIGATED.	147.8	93.7	10.7	SEP 84	SEP 84
5 80 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING TESTING COMPLETED, PRELIMINARY REPORTS PREPARED FOR JA-2(L5460), DIGL-RP(I5420-I5423) PROPELLANTS, CYCLOTOL 70/30, AND P8XC-203. TEST PLAN PREPARED FOR XM37 PROPELLANT.	407.6	201.4	191.8	MAY 81	JUN 82
5 81 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING NO FUNDS EXPENDED ON THE PROJECT.	441.0	170.0		SEP 83	SEP 83
5 80 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA TESTING WAS COMPLETED FOR 8 INCH M509 HE, 105MM M456 HEAT-T AND M42/M46 GRENADE CLUSTER TRAYS. SECONDARY FRAGMENT IMPACT STUDIES WERE CONTINUED USING DIMENSIONS OF 4.2 INCH MORTAR PROJ. SAFE SEPARATION STUDIES OF DIFFERENT BUCKET MATERIALS WAS DONE.	767.0	290.9	123.1	SEP 81	MAR 82
5 81 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA NO WORK ACCOMPLISHED SINCE NO FUNDS HAVE BEEN EXPENDED.	620.0	318.0		JUN 83	JUN 83
5 79 4291	BLAST EFFECTS IN THE MUNITIONS PLANT ENVIRONMENT TECHNICAL REPORT ARLCD-CR-81001 PREPARED ON THE BLAST CAPACITY OF COLO FORMED STEEL PANELS AND A STRENGTHENED STEEL BUILDING. TESTING OF A 70 LB CHARGE IN A COMPLETE CONTAINMENT CELL WAS CONDUCTED.	235.0	80.0	155.0	SEP 80	DEC 81

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5 80 4291	BLAST EFFECT IN THE MUNITION PLANT ENVIRONMENT ANALYTICAL STUDIES FOR THE DEVELOPMENT OF DESIGN CRITERIA AND PROCEDURES FOR USING ALTERNATE CONSTRUCTION MATERIALS IN THE BLAST ENVIRONMENT.	100.0		52.5	AUG 82	MAR 82
5 81 4298	EVALUATION OF DIMETHYLNITROSAMINE DISPOSAL ON HAAP 8-LINE COORDINATION MEETING HELD BETWEEN ARRADCOM, USAM8ROL, USATHAMA, USAEHA, PBMA, AND HAAP. WORK EFFORT IDENTIFIED AND WORK DESIGNATED TO EACH ORGANIZATION.	472.0	337.0	24.4	DEC 82	DEC 82
5 76 4303	ACCEPTANCE OF CONTINUOUSLY PRODUCED BLACK POWDER DURING THIS PERIOD, EFFORTS WERE MADE TO CORRECT SAFETY EFFICIENCIES ASSOCIATED WITH THE AREA IN WHICH THE FLAMESPREAD TEST DEVICE IS INSTALLED.	363.0	65.0		APR 77	AUG 81
5 79 4305	PON TECH FOR IMPROVED WP 155MM SMOKE MUNITION (XM825) PROVEOUT OF WP FILLING, CLOSING, AND LEAR TESTING WAS SUCCESSFULLY COMPLETED. TWO HUNDRED ROUNDS WERE FILLED AND CLOSURE WITH THE EQUIPMENT. AN SOP AND HAZARDS ANALYSIS WERE COMPLETED. A FINAL TECHNICAL REPORT WAS DRAFTED.	265.0		265.0	JUN 80	MAR 81
5 79 4309	PROCESS DEVELOPMENT FOR 120MM TANK AMMUNITION SEE SUBTASKS FOR WORK STATUS.	847.6	516.1	329.5	NOV 80	JUN 81
5 79 4309 01	DEVELOP MFG METHODS FOR STICK AND JA-2 PROPELLANT EXTRUSION CHARACTERISTIC STUDIES WERE COMPLETED. DIGL-RP CARPET ROLLS WERE SUCCESSFULLY EXTRUDED. OEGON STUDIES ARE PROGRESSING.	654.0	514.0	139.0	DEC 81	JUN 81
5 79 4309 02	EXPLOSIVE LOADING OF 120MM HEAT-MP WORK CONTINUED IN THE INVESTIGATION OF METHODS AND PROCEDURES FOR PRESSING HE IN THE WARHEAD.	193.6	2.1	190.5	DEC 80	JUN 81
5 80 4309	PROPELLANT PROCESS DEVELOPMENT FOR 120MM TANK AMMUNITION SEE SUBTASKS FOR WORK STATUS.	3,726.0	3,324.0	346.2	JUN 82	JUN 83
5 80 4309 01	DEVELOP MFG METHODS FOR STICK AND JA-2 PROPELLANT EJECTOR TUBE/ROLL CUTTER AND GUILLOTINE CUTTER WERE FABRICATED AND ARE BEING TESTED. A BENCH SCALE SYSTEM TO STUDY THE SEPARATION CHARACTERISTIC OF OEGON WAS DESIGNED, FABRICATED AND THE TESTING SCHEDULED.	1,746.0	1,592.0	128.0	DEC 82	JUN 83
5 80 4309 02	EXPLOSIVE LOADING OF 120MM HEAT-MP AUTHORIZATION TO START WORK ON THE HAZARDS ANALYSIS AND MHE CONCEPTS WAS GIVEN IN JAN 81 AND WORK IS PROCEEDING ON SCHEDULE. EFFORTS TO OBTAIN THE DATA NECESSARY TO AUTHORIZE WORK ON THE PRESSING TOOLING IS STILL UNDERWAY AND ALMOST COMPLETE.	273.0	186.0	64.8	DEC 82	JUN 83

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5 80 4309 03	ASSEMBLY PROCESS DEVELOPMENT SEVERAL CONCEPT DESIGNS WERE SUBMITTED FOR REVIEW. ECONOMIC ANALYSIS OF THE PROBLEM/SOLUTIONS BEING CONSIDERED WERE MADE. A REVIEW OF THE EA HAS RESULTED IN CHANGES + REDIRECTIONS OF TASK. PRESENTLY FY81/82 EFFORTS FOR THIS TASK ARE BEING CANCELLED.	685.0	597.0	81.6	JUN 82	JUN 83
5 80 4309 06	PROCESS FOR MOLDING REAR SEAL, 120MM. APOS RING PEEL TESTS WERE CONCLUDED AND DESIGNS FOR THE SEAL ASSEMBLY FIXTURE AND SOFT MULO WERE COMPLETED. METAL PARTS FOR THE TEST HARWARE WERE FABRICATED AND THE SOW FOR THIS TASK WAS INCREASED TO INCLUDE THE XM829 DESIGN.	919.0	874.0	44.6	JUN 82	JUN 83
5 80 4309 09	INVESTIGATE FORMING + HEAT TREAT METHODS FOR CORE, APOS AUTHORITY WAS GIVEN TO HONEYWELL, INC TO PROCEED WITH THE WORK OF THIS TASK SINCE THE ITEM CONFIGURATION IS NOW DESIGNED.	103.0	75.0	28.0	JUN 82	JUN 83
5 81 4309	AMMUNITION FOR THE 120MM TANK MAIN ARMAMENT SEE SUBTASKS FOR WORK STATUS.	3,951.0			JUN 83	JUN 83
5 81 4309 01	MFG METHODS FOR STICK + JA-2 PROPELLANT A SCOPE OF WORK WAS PREPARED, STAFFED AND DELIVERED TO PROCUREMENT. SOLE SOURCE SOLICITATION WAS MADE AND THE PROPOSAL WAS REVIEWED.	944.0			JUN 83	JUN 83
5 81 4309 02	EXPLOSIVE LOADING OF 120MM HEAT-MP-T THE SCOPE OF WORK WAS PREPARED AND A SOLICITATION MADE.	516.0			JUN 83	JUN 83
5 81 4309 03	ASSEMBLY PROCESS DEVELOPMENT THE SCOPE OF WORK WAS PREPARED AND A SOLICITATION MADE.	1,426.0			JUN 83	JUN 83
5 81 4309 04	COMBUSTIBLE CARTRIDGE CASE PROCESS - 120MM THE SCOPE OF WORK WAS PREPARED AND A SOLICITATION MADE.	215.0			JUN 83	JUN 83
5 81 4309 05	FORMING OF SABOT SEGMENTS TO NET SHAPE ON APFSOS AMMO THE SCOPE OF WORK WAS PREPARED AND A SOLICITATION MADE.	466.0			JUN 83	JUN 83
5 81 4309 09	INVESTIGATE FORMING + HEAT TREAT METHODS F/CORE, APOS SCOPE OF WORK WAS PREPARED AND A SOLICITATION MADE.	313.0			JUN 83	JUN 83
5 81 4309 12	INJECTION MOLDING OF XM829 OBUTRATOR SCOPE OF WORK WAS PREPARED AND A SOLICITATION WAS MADE.	111.0			JUN 83	JUN 83
5 79 4310	DMSD RECRYSTALLIZATION OF HMX/RDX 53 OF THE 72 SCHEDULED INTERIM QUALIFICATION TESTS WERE COMPLETED. NO ADVERSE EFFECTS DUE TO OMSU-RECRYSTALLIZED EXPLOSIVES WAS NOTED. LONG TERM STORAGE TESTS CONDUCTED WITH M55 OETONATORS AND GRENADES WERE FIRED SUCCESSFULLY.	490.7	335.7	133.0	DEC 81	MAR 82

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5 80 4310	OMSD RECRYSTALLIZATION OF ROX/HMX COMPATIBILITY TESTS WERE CONDUCTED WITH OMSD RECRYSTALLIZED EXPLOSIVES. RESULTS INDICATED NO REACTIVITY WITH THE STANDARD MATERIALS TESTED.	278.0		185.0	JUN 81	MAR 82
5 77 4311	DEVELOP AUTOMATED PRODUCTION EQUIPMENT FOR XM 692 DEBUGGING AND PREPARATION OF THE OVERLAY/KILL MECHANISM AND OBTAINING CORD WRAP MACHINES FOR ACCEPTANCE TESTING IS UNDERWAY.	1,458.7	1,184.0	261.8	AUG 78	DEC 81
5 81 4311	DEVELOP AUTOMATED PRODUCTION EQUIPMENT FOR M692 FUNDS HAVE BEEN RECEIVED AND ACTIONS ARE NOW UNDERWAY TO AWARD CONTRACTS TO COMPLETE THIS PROGRAM.	460.0			SEP 82	SEP 82
5 79 4312	INJECTION MOLDING FOR PRODUCTION EXPLOSIVE LOADING INJECTION LOADING EQUIPMENT FOR 8LU 63 BOMBLETS WAS DESIGNED AND FABRICATED. 112 8LU 63 BOMBLETS WERE LOADED WITH CYCLOTOL AND 104 8LU 63 BOMBLETS WERE LOADED WITH CUMP B. RESULTS WERE ACCEPTABLE.	261.0	181.0	79.8	JUN 80	JUN 81
5 80 4312	INJECTION MOLDING FOR PRODUCTION EXPLOSIVE LOADING THE INJECTION LOADING SYSTEM FOR THE 8LU 63 BOMBLET WAS MODIFIED TO LOAD ACM SUBMUNITIONS. THERMAL STABILIZATION TESTS WERE CONDUCTED BEFORE LOADING WITH OCTOL EXPLOSIVE.	279.0	125.7	117.6	JUL 81	SEP 81
5 79 4322	HMT DESIGN/CHAR OF ELEC CONT SYST FOR PROD FAC A RELIABILITY PREDICTION MODEL FOR JULIET AAP AND VOLUNTEER AAP WAS DEVELOPED AND DOCUMENTED IN TECH REPORT. A PLAN HAS BEEN PREPARED FOR 11 ARMY FACILITIES TO PREPARE ELECTRONIC PROCESS CONTROL SYSTEMS FOR LAYAWAY AND REACTIVATION.	609.0	289.0	310.2	FEB 80	SEP 81
5 80 4322	CHARACTERIZE DORMANCY EFFECT ON ELECTRONIC EQUIPMENT WORK WAS INITIATED TO ASSESS FUTURE TRENDS AND MAINTENANCE FOR COMPUTERS AND ELECTRONIC PROCESS CONTROL SYSTEMS. INVESTIGATION WAS INITIATED INTO ANTI-CORROSIVE VAPOR COMPOUNDS. FIELD SERVICE PHILOSOPHIES AND SPARE PARTS PROVISIONING TRENDS EVALUATED.	515.0	317.2	137.0	APR 82	FEB 82
5 79 4335	ALTERNATIVE PROC F/TITANIUM GYROSCOPE COMPONENTS-COPPERHEAD SIX SETS OF GYRO COMPONENTS WERE DELIVERED TO THE CONTRACTOR FOR INITIAL TESTING. THE QUALITY OF THE INNER GIMBALS WAS UNACCEPTABLE AND THEY WERE RETURNED TO THE SUBCONTRACTOR FOR FURTHER PROCESSING AND TECHNIQUE DEVELOPMENT.	457.8	432.6	13.4	FEB 81	SEP 81
5 78 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS THE 2000 L8/HR CONTINUOUS TUBE TYPE COOKER SYSTEM WAS DELIVERED.	734.9	644.9	90.0	APR 79	DEC 81
5 79 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS CHECK-OUT OF THE EQUIPMENT IS CONTINUING. IT INCLUDES TEMP AND PRESS MEASUREMENTS, FLOW RATES, FREQUENCY, PH, AND RESIDENCE MEASUREMENTS. THE STD OPERATING PROCEDURES ARE BEING PREPARED.	742.0	673.0	69.0	NOV 80	DEC 81



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5 80 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS THE NAVY AND AIR FORCE WERE CONTACTED REGARDING THE PENDING REVISION OF THE NC SPECIFICATION. A CLARIFICATION IN THE USE OF MOSER PROCESSING PROPRIETARY DATA WAS RESOLVED. A TEST AND EVALUATION PLAN WAS REVISED AND REVIEWED AT RAAP.	578.4	408.4	170.2	DEC 81	SEP 82
5 81 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS A CONTRACT SCOPE OF WORK WAS FORWARDED THRU ARRCOM TO RAAP WHERE IT WAS REVIEWED AND ACCEPTED. RAAP PREPARED A COST ESTIMATE AND SENT IT TO ARRCOM.	765.0		33.0	MAR 83	MAR 83
5 80 4344	ESTAB OF WASTE DISPOSAL TECH FOR M687 BINARY PROJECT COMPLETED REVIEW AND ANALYSIS OF PRIOR OF EFFORTS. DOCUMENTS REVIEWED CONSISTED MAINLY OF EFFORTS BY THE BRITISH AND MONSANTO ON GB INTERMEDIATES, SPECIFICALLY OF.	108.0	5.0	100.0	DEC 82	SEP 81
5 81 4344	ESTAB OF WASTE DISPOSAL TECH FOR M687 BINARY PROJECT CONTRACT WAS AWARDED FOR REVIEW OF INDUSTRIAL WORK ON OF. EFFORTS CONTINUED ON DEVELOPING THE ALTERNATIVE PROCESS FOR DIFFERENT WASTE TREATMENT OPTIONS AND POSSIBLE OF MANUFACTURING PROCESS VARIATIONS.	200.0			DEC 82	DEC 82
5 78 4349	MODERNIZATION OF PRESS LOADING FOR HEP PROJECTILES ***** DELINQUENT STATUS REPORT *****	323.0		250.0	JUN 80	DEC 81
5 80 4357	NONDESTRUCTIVE TEST EQUIP F/LARGE CALIBER MUNITIONS F/M483A1 THE CONTRACT FOR THE DESIGN AND FABRICATION OF A PROTOTYPE SYSTEM HAS BEEN AWARDED. THE APPLICATION TEST HAS BEEN COMPLETED.	556.0	105.0		JUN 83	JUN 83
5 81 4364	ON-LINE BIO SENSORS TO MONITOR MIXED WASTE STREAMS FUNDS WERE RECEIVED IN APRIL 81.	258.0			JUN 83	JUN 83
5 80 4411	SMALL CALIBER AMMUNITION PROCESS IMPROVEMENT PROGRAM CONTRACT FOR THE BEARING ANALYSIS MONITOR HAS BEEN AWARDED. DELIVERY AND INSTALLATION IS ANTICIPATED BY SEPT 81. THE EVALUATION PERIOD WAS EXTENDED FROM 3 TO 6 MONTHS.	453.0	190.0	64.0	DEC 83	DEC 83
5 80 4417	PROCESS TECHNOLOGY FOR BLENDING RP SMOKE COMPOSITIONS COMPLETED LAB SCALE STUDIES OF FEASIBILITY AND SAFETY OF USING AIRMIX MIXER. SCALE UP TESTING INITIATED. MULLER MIXER PROCURED.	115.0		45.0	MAY 81	JAN 82
5 81 4417	PROCESS TECHNOLOGY FOR BLENDING RP SMOKE COMPOSITIONS NO FUNDS EXPENDED ON THE PROJECT.	165.0			SEP 82	SEP 82
5 78 4444	BOOY FOR M42/M46 GRENADE CONTRACTS WERE AWARDED TO OAYTRON CORP AND MB ASSOC.	626.0	434.3	189.7	JUN 79	FEB 82



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5 79 4444	BOOY FOR M42/M46 GRENADE CONTRACTS WERE AWARDED TO DAYRON CORP AND M8 ASSOC.	563.0	375.7	47.6	SEP 80	MAR 83
5 81 4449	PROCESS IMPROVEMENT FOR COMPOSITION C-4 SCOPE OF WORK WAS WRITTEN FOR HOLSTON AAP. CONTRACT IS PRESENTLY BEING NEGOTIATED WITH AN AWARD SCHEDULED FOR THE END OF THE 3RD QUARTER, FY81.	329.0		5.2	JUN 83	JUN 83
5 78 4454	AUTO INSPECTION DEVICE FOR EXPLOSIVE CHARGE IN SHELL-CAM A OEM OF THE ENG. MODEL WAS DONE IN NOV OF 79. ALSO A PRELIM. DESIGN CONCEPT FOR A PRODUCTION PROTOTYPE OF THE AIOECS SYS. WAS SUBMITTED + REVIEWED. BASED ON THE REVIEW CHANGES WERE MADE TO THE PROPOSAL. A CONTRACT WAS LET TO START THE AXIS TASK.	1,348.0	1,132.0	216.0	JUL 80	NOV 81
5 79 4454	AUTO INSPECTION DEVICE FOR EXPLOSIVE CHARGE IN SHELL-CAM SEE PROJECT 5 81 4454 FOR STATUS. THE FUNDING STATUS FOR THIS PORTION OF THE EFFORT HAS BEEN COMBINED WITH FY80 AND FY81 AND IS DISPLAYED WITH THE FY 81 PROJECT INFORMATION.	728.0			OEC 81	OCT 82
5 80 4454	AUTO INSP DEVICE EXPLOS CHARGE SHELL (AIOECS) SEE PROJECT 5 81 4454 FOR STATUS. THE FUNDING STATUS FOR THIS PORTION OF THE EFFORT HAS BEEN COMBINED WITH FY80 AND FY81 AND IS DISPLAYED WITH THE FY81 PROJECT INFORMATION.	1,298.0			APR 82	OCT 82
5 81 4454	AUTO INSP DEVICE EXPLOS CHARGE SHELL (AIOECS) SEE SUBTASKS BELOW FOR PROJECT STATUS.	3,911.0	3,170.3	553.0	OCT 82	OCT 82
5 81 4454 01	AUTOMATIC INSPECTION DEVICE FOR EXPLOSIVE CHARGE IN SHELL THE DESIGN OF THE 155MM PROTOTYPE WAS COMPLETED AND WAS REVIEWED BY ARRAOCOM. FABRICATION HAS BEEN INITIATED. THE 4 MEV LINATRON HAS BEEN RECEIVED BY THE CONTRACTOR.				MAY 82	MAY 82
5 81 4454 02	AUTOMATIC X-RAY INSPECTION SYSTEM (AXIS) THE SYS PROGRAMS HAVE BEEN WRITTEN + DOCUMENTED. THE OPTICAL SCANNING SYSTEM HAS BEEN INSTALLED AND DEBugged. AN ALIGNMENT SCHEME HAS BEEN DEVISED. THE AXIS SYSTEM IS OPERATIONAL AT THE CONTRACTORS FACILITY.				OCT 82	OCT 82
5 79 4460	CONT MIXER-ILLUMINANT COMP ANAL + CONTROL SYSTEM X-RAY FLUORESCENCE ANALYSIS SELECTED AFTER TESTING FOR FACILITY AT LONGHORN AAP. IT WILL MEASURE MG, NANO3 AND 81NO2 TO 3 PCT IN 14 MINUTES VS 2 HRS EXISTING METHOD. MTT PROJECT FOR FY83 AT LONGHORN PLANNED FOR IMPLEMENTATION.	236.0	114.0	122.0	OEC 80	AUG 81
5 79 4462	MODERNIZED FAO FOR MULTI-BASE PROPELLANTS DRYING TESTS WERE SUCCESSFULLY CONDUCTED WITH VARIOUS MULTIBASE PROPELLANTS IN THE PAD 8AY. PROPELLANT WAS DRIED IN GREATER QUANTITY AT LOWER AIR FLOW RATES THAN IN A CONVENTIONAL BAY. SITE PREPARATION WAS INITIATED AND COMPLETED.	542.2	410.2	132.0	JUL 80	DEC 81

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5 80 4462	FORCED AIR DRY FOR MULTI-8ASED PROPELLANTS SITE PREPARATION, SAFETY SITE APPROVAL, AND POLLUTION ABATEMENT EQUIPMENT INSTALLATION WAS COMPLETED. CONTROL SYSTEM FUNCTIONAL CRITERIA WAS PREPARED. A TEST AND EVALUATION PLAN ADDENDUM WAS COMPLETED BY RAAP.	85D.0	509.0	221.9	SEP 8D	JUN 82
5 79 4466	EVAL TNT, CYCLOTOL, OCTOL IN MELT-POUR FACILITY INSTALLATION DRAWINGS, PRELIMINARY SURVEY OF THE INSTRUMENTATION AND CONTROL SYSTEM, AND FABRICATION OF THE S. HOWES MIXER WERE COMPLETED. THE CONTROLLED COOLING EQUIPMENT HAS BEEN INSTALLED.	699.7	142.1	227.4	APR 81	MAR 82
5 79 4469	AUTOMATIC INSERTION OF GRENADE LAYERS GRENADE INSERTION SYSTEM FABRICATION AND ASSEMBLY WORK WAS COMPLETED AND THE MACHINE WAS SUCCESSFULLY DEMONSTRATED. EVALUATION OF MODELS FOR THE GRENADE PREPAK EQUIPMENT WAS COMPLETED, AND THE CONTRACTOR AUTHORIZED TO PROCEED WITH THE DESIGNS.	1,15D.0	871.0	168.9	JAN 8D	DEC 81
5 80 4469	AUTOMATIC INSERTION OF GRENADE LAYERS PURCHASE OF CRITICAL LONG LEAD TIME GRENADE PREPAK MACHINE ITEMS WAS AUTHORIZED. DRAFTING OF SPECIFIC MACHINE STATIONS WAS HALF COMPLETED. A TEST PLAN FOR THE GRENADE PREPAK INSERTION MACHINE WAS COMPLETED.	35D.0	177.3	4.5	JAN 81	MAR 82
5 79 4474	DEHUMIDIFIED AIR FOR DRYING SINGLE- BASE PROPELLANT NINE DRYING TESTS ON MOMP PROPELLANT FOR 155MM PROJECTILES WERE CONDUCTED USING THE 8ENCH SCALE DRYING EQUIPMENT. TEMPERATURE AND RELATIVE HUMIDITY WERE VARIED. TEST RESULTS ARE BEING EVALUATED AND A FINAL TECHNICAL REPORT IS BEING WRITTEN.	175.0	100.0	74.6	AUG 80	JUN 82
5 80 4480	HIGH SPEED HEAD TURN TOOL MOD F/SC AMMO PROD LAKE CITY AAP COMPLETED THEIR EVALUATION OF THE GULF AND WESTERN MOD 111 B TOOL MODULE. THE SOW WAS REVISED AND SENT TO LAKE CITY FOR COST ESTIMATE.	184.0		2.0	SEP 82	DEC 82
5 80 4484	IMPR HI-SPEED WATERPROOFING APPL F/SC AMMO CONTRACT SOW HAS BEEN PRICED OUT BY LCAAP. CONTRACT AWARD IS EXPECTED IN JUNE 81. NO MILESTONES HAVE YET BEEN COMPLETED.	126.0	93.0	2.0	MAR 82	DEC 82
5 79 4498	CONSOLIDATION + AUTOMATIC ASSEMBLY OF SMALL MINES ***** DELINQUENT STATUS REPORT *****	572.0	50D.0	49.2	SEP 8D	MAR 82
5 80 4498	DEV METH FOR CONSOL AND AUTO ASSY OF SMALL MINES ***** DELINQUENT STATUS REPORT *****	392.0	212.1	0.5	DEC 81	SEP 82

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5 81 4503	NEW PROCESS FOR S&WS TRACER AMMUNITION TASK 1 OF A TWO TASK CONTRACT SCOPE OF WORK WAS LET ON 1 MAY 81 TO PROVIDE FOR EARLY BULLET JACKET CUP AND TOOL DESIGN/EVALUATION ACTIVITY. TASK 2 WILL BE LET UPON SUBMISSION OF ACCEPTABLE DD 633 COST ESTIMATES, WHICH IS ANTICIPATED BEFORE 1 AUG 81.	500.0	409.0	3.1	AUG 82	AUG 82
5 81 4506	5.56 MM CARTRIDGE LINKING SYSTEM A STATEMENT OF WORK HAS BEEN PREPARED AND FORWARDED TO ARRCUM/LCAAP. DD 633 COST ESTIMATES WERE INITIATED.	558.0		5.8	JAN 83	JAN 83
5 79 4508	PROCESS IMPROVEMENT OF PRESSABLE ROX COMPOSITIONS MODIFICATIONS MADE TO THE WOLVERINE JET ZONE DRYER AND THE FISHER KLOSTERMAN SCRUBBERS ELIMINATED THE A-7 DUSTING PROBLEMS IN BLDG 1-1. REMAINING FY79 FUNDS WERE RESERVED FOR INSTALLING AND CHECKING OUT THE WYSSMONT TURBO DRYER SYSTEM.	357.0	289.0	68.0	DEC 79	JUN 82
5 80 4508	PROCESS IMPROVEMENT OF PRESSABLE ROX COMPOSITIONS SCHEDULES HAVE SLIPPED DUE TO INDEMNIFICATION LIABILITY WITH THE USE OF THE WYSSMONT DRYER IN FUTURE YRS. WEIGH FEEDER DRAWINGS WERE APPROVED AND BELT FILTER INSTALLATION WAS COMPLETED. A-5 IS BEING PRODUCED BY NEW PROCESS AND IS BEING USER ACCEPTED.	505.8	333.8	111.9	APR 82	MAR 83
5 77 6200	SMALL CALIBER AMMO PROCESS IMPROVEMENT PROGRAM THE BLISS NO 6 PRESS HAS BEEN INSTALLED. INITIAL TESTING WILL BEGIN ON 22 JUNE 81. THE 90 DAY PRODUCTION RUN WILL BEGIN ON 29 JUNE 81.	1,218.0	1,087.0	86.9	FEB 78	DEC 81
5 76 6472	APPLN OF ALT PROCES FOR FAB OF PRECIS METAL PARTS FOR MTFUZE PROJECT IS TECHNICALLY COMPLETE. A FINAL REPORT HAS NOT BEEN SUBMITTED. PROJECT RESULTS WILL BE IMPLEMENTED THRU 5 83 3187.	400.0	339.7	58.6	FEB 78	JUL 81
5 77 6494	NEW CONCEPTS FOR MFR AND INSPECT OF 20MM 25MM 30MM AMMO ALL REMAINING TASKS HAVE BEEN CANCELLED. FINAL REPORTS ARE BEING PREPARED OR ARE WRITTEN FOR THE VARIOUS SUBTASKS.	1,079.0	963.0	116.0	AUG 79	SEP 81
5 75 6494	MANUFACTURE AND INSPECTION OF CAL.50, 20MM, AND 30MM AMMO THE FUZE TO PROJECTILE ASSEMBLY PORTION OF THIS EFFORT WAS TERMINATED. A FINAL REPORT HAS BEEN WRITTEN AND APPROVED BUT NOT YET DISTRIBUTED.	3,106.0	1,624.0	1,482.0	DEC 76	SEP 81
5 76 6494	MANUFACTURE AND INSPECTION OF CAL.50, 20MM, AND 30MM AMMO HEI THIS TASK WAS NOT MENTIONED IN THIS STATUS REPORT HOWEVER THE EFFORT WAS CANCELLED. A FINAL REPORT SHOULD BE PREPARED.	1,196.0	819.0	377.0	DEC 77	SEP 81
5 77 6494	NEW CONCEPTS FOR MFR AND INSPECT OF 20MM 25MM 30MM AMMO BALLISTIC TEST SUBMODULE- THIS TASK WAS CANCELLED. A FINAL REPORT WAS PREPARED AND IS BEING REVIEWED.	573.0	46.0	527.0	JUN 79	SEP 81

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$0DD)	CONTRACT VALUES (\$0DD)	EXPENDED LABOR AND MATERIAL (\$0DD)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 78 6596	8ALL PROPELLANT PILOT PLANT STUDIES ALL PHYSICAL WORK IS COMPLETE AND THE PILOT LINE HAS BEEN DECONTAMINATED. PREPARATION OF THE FINAL REPORT HAS BEGUN. A FINAL PROGRESS REPORT WILL BE SUBMITTED AT THE TIME OF THE NEXT SUBMISSION.	1,618.D	1,475.D	143.D	JAN 79	SEP 81
5 76 6599	2ND GENER ELEC-OPTC PROJ D CAVITY INS EQ FOR 155-175MM PROJOS THE CONTRACT MODIFICATION TASK IS ALMOST COMPLETE. ACCEPTANCE TESTS WILL BE CONDUCTED JUNE 16 + 17 1981.	198.D	181.D	9.5	SEP 77	SEP 81
5 77 6632	AUTO INSPECTION DEVICES FOR ART PROJECTILES IN MOD PLANTS THE EDDY CURRENT INSP. SYS. FOR THE 155MM, M483 PROJECTILE BASE AND GIVE WERE CONTRACTED TO BE BUILT. THE OGIVE WAS COMPLETED AND DEMONSTRATED. THE BASE IS STILL UNDER DEVELOPMENT.	586.1	348.7	229.2	SEP 78	JUN 81
5 78 6634	MFG DU ALLOYS FOR LARGE CALIBER ARMOR DEFEATING PROJECTILE NO CLEAR ACCOMPLISHMENT FOR THIS REPORTING PERIOD IS DELINEATED.	400.D	240.D	160.D	FEB 79	DEC 81
5 79 6634	MFG DU ALLOYS FOR LARGE CALIBER ARMOR DEFEATING PROJECTILE THREAD FORMING PORTION IS COMPLETED. CHIP RECYCLING IS PROCEEDING AND MELTING OF CHIPS IN SLAT WILL BE PURSUED WHEN MG SET IS FIXED.	542.D	334.D	200.D	AUG 80	JUN 82
5 77 6640	PROD CONTROL/QA OF SHAPED CHG LINERS BY AUTO X-RAY ANAL STATIC SPIN PENETRATION TESTS WERE COMPLETED. X-RAY PULE FIGURE WORK IS COMPLETE. FINAL REPORTS ARE BEING PREPARED ON THE MANUFACTURING PROCESS CONTROLS, THE X-RAY INSPECTION RESULTS AND THE PENETRATION RESULTS.	176.6	49.6	90.6	JUN 78	DEC 81
5 79 6682	SIMULATION OF AMMUNITION PRODUCTION LINES PROVE OUT OF THE PREDICTED RESULTS FOR MATERIAL HANDLING REQUIREMENTS IS IN PROGRESS. A TECHNICAL REPORT IS BEING PREPARED.	170.D		170.D	NOV 80	SEP 81
5 79 6693	8ALL PROPELLANT DETERRENT COATING-CAM RELATED FABRICATION, ASSEMBLY, INSTALLATION AND ACCEPTANCE TESTING OF THE MODIFIED 5 GAL REACTOR AND ASSOCIATED PROGRAMMABLE PROCESS CONTROLLER WERE COMPLETED ON 29 MAY 1981. PREPARATION OF THE FINAL TECHNICAL REPORT IS UNDERWAY.	171.D	27.5	132.4	NOV 80	NOV 81
5 79 6716	MATH MODEL OF FORMING OPERATIONS FOR ARTILLERY DESIGN THIS PROJECT IS COMPLETE. A FINAL TECHNICAL REPORT IS BEING PREPARED. MATH MODELING OF THE BLOCKING, CABBAGING AND PIERCING OPERATIONS HAVE BEEN COMPLETED. CONFIRMATION TEST WERE CONDUCTED.	306.0	270.D	36.0	JUN 80	DEC 81

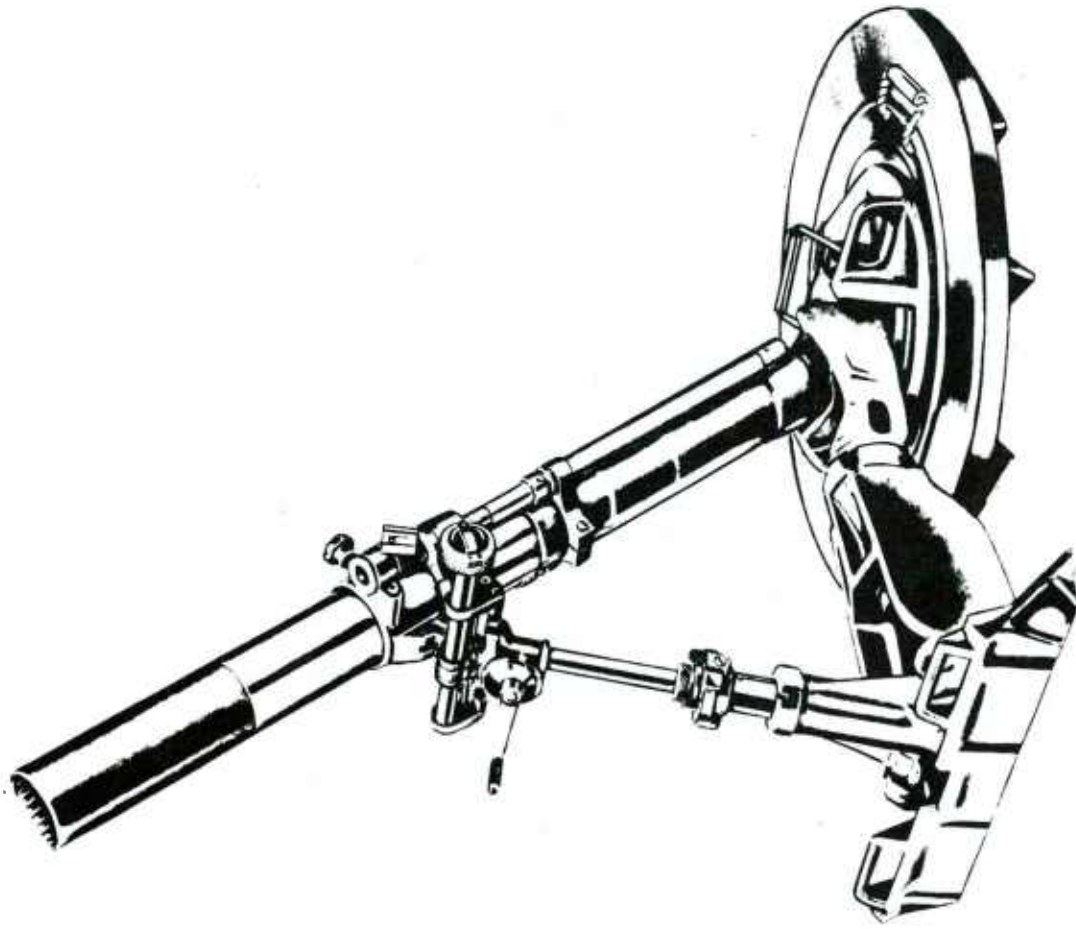
S U M M A R Y P R O J E C T S T A T U S R E P O R T  
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1ST SEMI-ANNUAL SUBMISSION CY 81 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHOR- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 81 6716	DEV COMP-AID MODEL OF FORMING OPERATIONS FOR ARTILLERY MPTS THE OBJECTIVE OF THIS PROJECT IS TO CONSOLIDATE THE BLOCKING, CABBAGING, PIERCING, DRAWING, AND MOLDING MODELS INTO ONE COMPREHENSIVE SYSTEM OF COMPUTER PROGRAMS. THE SCOPE OF WORK AND PROCUREMENT PACKAGE HAVE BEEN FORMULATED.	157.0			OEC B2	OEC 82
5 79 6736	TECH READINESS ACCEL THRU COMPUTER INTEGRATED MFG (CAD) A FORMAT FOR A COMPUTER DATA BASE FOR RECALL OF MANUFACTURING DATA AND INFORMATION WAS ESTABLISHED. THIS FORMAT OR DESCRIPTION OF MANUFACTURE IS A COMPUTER MODEL OF THE MANUFACTURING PROCESS.	416.6	288.9	102.2	SEP 79	OEC B1
5 80 6736	TECH READINESS ACCEL THRU COMPUTER INTEGRATED MFG (CAM) DEVELOPMENT OF THE COMPUTERIZED DATA BASE FOR MANUFACTURING INFORMATION IS CONTINUING. IN ADDITION, COMPUTER GRAPHICS IS BEING REVIEWED AS A MODULE FOR RETRIEVAL DRAWINGS AND FOR PROGRAMMING DETAIL PARTS FOR NUMERICAL CONTROL MACHINING.	340.0	183.8	110.8	OCT 81	JUN 82
5 79 6738	USE OF ULTRA-HI SURFACE SPEEDS F/METAL REMOVAL, ARTY SHELL MACHINING STUDIES HAVE BEEN COMPLETED ON 4 TYPES OF STEELS USING 5 TYPES OF CUTTING TOOLS. RESULTS SHOW THAT MACHINING SPEEDS CAN BE SIGNIFICANTLY INCREASED WITH THE NEW GENERATION TOOLING.	180.8	148.9	31.8	SEP 80	DEC 81
5 80 6738	ULTRA-HIGH SPEED METAL REMOVAL, ARTILLERY SHELL CONTRACT HAS BEEN PLACED WITH JONES AND LAMSON. PURCHASE OF FOUR DIFFERENT TYPES OF PROJECTILE FORGINGS IS IN PROCESS THROUGH PROCUREMENT CHANNELS.	297.0	110.6	71.0	AUG 81	SEP 81
5 78 6748	SCAMP POLLUTION ABATEMENT FINAL REPORT FROM CONTRACTOR WAS SUBMITTED 30 MAR 81 AND IS READY FOR PUBLICATION AND DISTRIBUTION. THE ONLY REMAINING ACTIVITY IS DCASR FINAL AUDIT BEFORE PROJECT CLOSE-OUT.	310.0	193.6	116.4	JAN 81	MAR 81
5 79 6748	SCAMP POLLUTION ABATEMENT EQUIPMENT WAS DESIGNED FOR TREATING BOTH ORGANIC AND INORGANIC WASTEWATERS. MEMBRANE SEPARATION PROCESSES WERE SUCCESSFULLY SCALED UP FROM PREVIOUSLY PILOTED WORK AND YIELDED A CONC STREAM OF 6.8-7.7% OIL AND GREASE CONTENT.	77.0	50.0	26.4	AUG 80	MAR 81
5 78 6753	METHODS FOR ORIENTING AND FEEDING SMALL CAL AMMO FEASIBILITY OF MANUFACTURING 7.62MM CASES ON SCAMP EQUIPMENT WAS DEMONSTRATED. A COMPLETE SET OF TOOL AND ANNEALING COIL DRAWINGS ARE AVAILABLE FOR IMPLEMENTATION. THE AUTOMATED HARNESS TESTOR EFFORT WILL CONTINUE IN AN FY83 PROJECT.	475.0	366.0	107.0	MAR 79	JUN 81
5 79 6760	DRYING OF LOW DENSITY BALL PROPELLANT EXPERIMENTAL TESTING HAS BEEN COMPLETED AND CONDITIONS FOR CONTINUOUS OPERATION AND CONTROL HAVE BEEN DEFINED. THE FINAL TECHNICAL REPORT IS BEING PREPARED.	101.0	67.0	31.7	JAN 81	OEC 81

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		(\$000)	(\$000)	(\$000)		
5 78 6774	MANUFACTURING METHODS FOR APOS PROJECTILE CONDUCTED A PROGRAM OF TESTING TO ADJUST ALL FOUR OF THE MOLD CAVITIES TO MORE SIMILAR PROCESS CHARACTERISTICS AND TO OBTAIN IMPROVED AMMUNITION DISPERSION RESULTS IN BALLISTIC TESTING.	300.0	249.0	51.0	NOV 79	MAR 81
5 79 6774	MANUFACTURING METHODS FOR APOS PROJECTILE FEASIBILITY DEMONSTRATION OF THE EQUIPMENT WAS PERFORMED. THE AVERAGE RATE FOR THE MOLDING MACHINE WAS 285 PARTS/HOUR. THE TRIMMING RATE WAS 733 PARTS/HOUR. A DRAFT FINAL REPORT WAS SUBMITTED.	895.0	711.8	179.3	NOV 79	MAR 81





**ARMAMENT R&D COMMAND**  
**ARMAMENT MATERIEL READINESS COMMAND**  
**(ARRADCOM, ARRCOM)**  
**(WEAPONS)**

A R R C O M - A R R A O C O M (WEAPONS)

CURRENT FUNDING STATUS, 1ST CY81

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ( \$ )	* * C O N T R A C T A L L O C A T E D ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )	* * I N H O U S E R E M A I N I N G ( \$ )	* * F U N D I N G E X P E N D E D ( \$ )
75	1	140,000	98,100	98,100 (100%)	41,900	40,600 ( 96%)
76	1	350,000	285,400	284,700 ( 99%)	64,600	54,600 ( 84%)
77	0	0	0	0 ( 0%)	0	0 ( 0%)
77	6	2,305,300	1,527,300	1,058,300 ( 69%)	778,000	667,500 ( 85%)
78	6	1,044,000	650,900	554,200 ( 85%)	393,100	323,100 ( 82%)
79	16	2,554,000	754,200	486,000 ( 64%)	1,799,800	1,324,700 ( 73%)
80	31	5,947,200	933,400	281,800 ( 30%)	5,013,800	1,491,300 ( 29%)
81	30	6,159,000	233,700	0 ( 0%)	5,925,300	228,000 ( 3%)
82	0	0	0	0 ( 0%)	0	0 ( 0%)
TOTAL	91	18,499,500	4,483,000	2,763,100 ( 61%)	14,016,500	4,129,800 ( 29%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 24% INHOUSE REMAINING 75%

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 80 3901	MANUFACTURE OF FLUIDIC AMPLIFIERS BY COLD FORMING (PHASE 2) ***** OELINQUENT STATUS REPORT *****	59.0	59.0		AUG 81	AUG 81
6 77 7201	ARTILLERY WEAPON FIRING TEST SIMULATOR INSTALLATION OF THE SECOND SIMULATOR IS COMPLETE. MAJOR PROBLEMS HAVE BEEN RESOLVED, HOWEVER MINOR SOFTWARE/SIMULATOR INTERFACE PROBLEMS ARE DELAYING COMPLETION. MINOR SOFTWARE REVISIONS ARE PLANNED AND FINAL TRAINING IS BEING SCHEDULED.	820.0	699.6	108.7	OCT 78	SEP 81
6 79 7317	OPTIMIZATION OF STEP THREAD TOOLING ELECTRICAL MALFUNCTION OF THE STEP THREAD MACHINE CONTINUES TO PREVENT EVALUATION OF CUTTING MATERIALS AND THE SPECIAL GRINDING FIXTURE.	75.0	5.2	36.2	NOV 80	JUN 82
6 79 7482	MODIFIED R1880N RIFLING GENERATING MACHINE IN HOUSE DESIGN AND SPECIFICATION WORK HAS BEEN COMPLETED. WORK IS CONTINUING IN AN ATTEMPT TO SOLVE THE PROBLEMS ASSOCIATED WITH CONTRACT PLACEMENT.	296.0		21.8	APR 81	OEC 83
6 75 7532	SINGLE POINT CUTTING FOR METAL + PLASTIC OPTICS TECHNICAL WORK IS COMPLETE, BUT A TECHNICAL REPORT HAS NOT BEEN SUBMITTED.	140.0	98.1	40.6	JUN 76	OEC 81
6 79 7555	DYNAMIC PRESSURIZATION STAND, SLIDE BLOCK BREECH MECH PROBLEMS WITH THE RELIABILITY OF THE SYSTEM HAVE DELAYED THE ACCEPTANCE. THE ACCEPTANCE IS SCHEDULED FOR JULY 1981. THE COMPLETION OF THE BASE VALVE ASSEMBLY AND ACCUMULATOR CAP IS SCHEDULED FOR SEPT 1981.	121.0	50.9	37.5	SEP 81	FEB 82
6 76 7580	PILOT AUTO SHOP LOADING AND CONTROL SYSTEM- CAM THE REMAINING DEVELOPMENT WORK WAS COMPLETE DURING THE REPORTING PERIOD. THE LAST PHASE OF THE PROJECT IS UNDERGOING ACCEPTANCE TESTING BY USERS. ALL MODULES ARE OPERATIONAL AND BEING USED. TOTAL INPL WILL OCCUR GRADUALLY AS NEW P/D ARE RECEIVED.	350.0	205.4	54.6	SEP 78	SEP 81
6 79 7605	CHEMICALLY BONDED SAND FOR CLOSE TOLERANCE CASTING THE CORE MAKING SYSTEM WAS INSTALLED.	127.0	22.0	99.0	MAR 80	AUG 81
6 80 7605	CHEMICALLY BONDED SAND FOR CLOSE TOLERANCE CASTING MAJOR PARTS OF THE CORE SYSTEM HAVE BEEN INSTALLED.	174.0		94.3	FEB 82	APR 83
6 77 7644	APPLICATION OF INTEGRAL COLOR ANODIZE FOR ALUMINUM CORROSION, LIGHT FASTNESS, ABRASION RESISTANCE, POROSITY AND CRAZING TESTS HAVE BEEN CONDUCTED ON VARIOUS COUPONS. THE M16A1 RIFLE UPPER RECEIVER IS SCHEDULED FOR A COMPARATIVE FIELD EVALUATION.	75.0		75.0	APR 78	MAY 81

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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 78 771D	INJECTION MOLDING OF RUBBER OBTURATOR PADS QUALITY ASSURANCE TESTING OF INJECTION MOLDED OBTURATOR PADS REVEALED DIMENSIONAL DEFICIENCY IN THE AREA OF THE FOUR MOLD VENTS. DIMENSIONS IN THE GATE AREAS WERE EXCELLENT. WORK WILL BE EXTENDED TO RESOLVE THE DIMENSIONAL PROBLEM.	77.0		60.7	JUL 79	JUN 82
6 77 7714	MULTI-MODE WEAPON + MOUNT IMPEDANCE SIMULATOR (CAM) ACCEPTANCE TESTING WILL BE CONDUCTED IN AUGUST 1981.	335.0	245.0	84.4	OCT 79	SEP 81
6 79 7724	GROUP TECHNOLOGY OF WEAPON SYSTEMS ALL FUNDS HAVE BEEN EXPENDED. INFORMATION ON 474 ROTATIONAL PARTS HAS BEEN CODED AND IS BEING LOADED ON THE IN-HOUSE COMPUTER SYSTEM. A POSITIVE ATTITUDE ABOUT GT EXISTS, FUTURE ACTIONS WILL BE DIRECTED TOWARD COMPUTER-AIDED PROCESS PLANNING.	83.0	35.0	48.0	FEB 80	AUG 81
6 81 7724	GROUP TECHNOLOGY OF WEAPON SYSTEMS (CAM) A PURCHASE DESCRIPTION FOR A COMPUTERIZED PROCESS PLANNING SYSTEM INCLUDING AUTOMATED TIME STANDARDS IS BEING PREPARED.	180.0	17.3		JUN 83	JUN 83
6 79 7726	APPLICATION OF COLB AND WARM ROTARY FORGING COLD FORGING TRIALS RESCHEDULED 4 JUNE 81. BATTELLE PROPOSAL ON A COMPUTER PROGRAM FOR SIMULATION OF THE ROTARY FORGE LINE HAS BEEN ACCEPTED. BUT WORK IS DELETED FROM THIS PROJECT AND WILL BE FUNDED UNDER A RELATED PROJECT.	108.0	33.6	15.3	SEP 80	DEC 81
6 79 7727	RECYCLING OF SCRAP GUN TUBES BY ROTARY FORGING ALL FORGING TRIALS, TESTING AND INSPECTION ARE DONE. THE FIRST ARTICLE TUBE WAS ACCEPTED BY PAD. THIS ALLOWS RECYCLING SPENT TUBES THAT WERE ORIGINALLY MADE USING VACUUM DEGASS OR VACUUM DEDUOXIDATION.	237.0	7.6	228.0	JUL 81	JUN 81
6 79 773D	MANUFACTURE OF SPLIT RING BREECH SEALS HYDRAULIC KINKING MACH FITTED WITH LARGER CYLINDER. A CONTRACT HAS BEEN LET TO MODIFY A WIRE EDM FOR SPLITTING THE RING. MFRS OF LAPPING AND POLISHING EQUIP WERE CONTACTED IN REGARD POLISHING AND SEATING OF THE SPLIT SURFACES. NEGATIVE REPLY REC'D.	137.0	9.9	89.7	JUN 80	SEP 91
6 80 773D	MANUFACTURE OF SPLIT RING BREECH SEALS WORK ON THE KINKING UNIT IS CONTINUING. ADDITIONAL TESTING OF THE WIRE EDM BEING PLANNED. 2 GRINDERS BEING ORDERED FOR LAPPING OPERATIONS. GRINDERS WILL BE MODIFIED IN-HOUSE TO PERFORM THE REQUIRED POLISHING TO MEET COMPONENT DRAWING REQUIREMENTS.	363.0		26.8	DEC 82	DEC 82
6 77 7745	DIAMOND TOOL FABRICATION CAPABILITY THIS PROJECT IS BEING TERMINATED BECAUSE OF PERSONNEL PROBLEMS AND A SIGNIFICANT COST INCREASE. THE LATEST PROJECT STATUS REPORT IS BEING RETURNED TO ARADCOM IN ORDER THAT A TECHNICAL REPORT MAY BE PREPARED.	112.0		61.4	MAR 78	SEP 81

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PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 77 7753	NOISE SUPPRESSOR FOR POWDER TYPE RECOIL MECHANISM TESTING MA THE EQUIPMENT DESIGN HAS BEEN ACCEPTED AND FABRICATION IS NEARING COMPLETION. THE RAIL SYSTEM FOR MOVEMENT OF THE NOISE ATTENUATOR AND THE SLOWER FOUNDATION HAVE BEEN COMPLETED.	385.0	334.9	9.9	FEB 80	AUG 81
6 79 7802	ESTABLISH MACHINE TOOL PERFORMANCE SPECIFICATIONS A METHODOLOGY WAS DEVELOPED AND DEMONSTRATED FOR ANALYZING THE RELATIONSHIP OF RIA PRODUCTION REQUIREMENTS TO THE RESULTS OF MACHINE TOOL TEST PROCEDURES. PROJECT RESULTS REVIEWED WITH RIA NC PROGRAMMING AND PLANT EQUIPMENT PERSONNEL.	282.0	267.5	11.0	JUN 81	DEC 81
6 78 7807	PROGRAMMED OPTICAL SURFACING EQUIPMENT AND METHODOLOGY (CAM) A BOSTONATIC #312 CNC MACHINING CENTER WAS PURCHASED + INSTALLED AT THE INSTITUTE OF OPTICS, UNIVERSITY OF ROCHESTER FOR SUBSEQUENT MODIFICATION, INSTRUMENTATION, + TESTING UNDER #6797807 + 6817807. FINAL PROJECT STATUS REPORT PREPARED.	134.0	106.0	28.0	OEC 79	APR 82
6 79 7807	PROGRAMMED OPTICAL SURFACING EQUIPMENT AND METHODOLOGY (CAM) THE HIGH SPEED SPINDLES + SPEED CONTROLLER WAS PURCHASED + DELIVERED + WILL BE INSTALLED LATER. THE MACHINE PARAMETER TOLERANCE PROGRAM WAS PREPARED. DESIGN OF THE HOUSING TO SUPPORT THE SPINDLES + THE INITIAL DESIGN FOR INTERFEROMETER WAS FINISHED.	138.0	119.0	17.5	NOV 80	JUL 82
6 81 7807	PROGRAMMED OPTICAL SURFACING EQUIPMENT/METHODOLOGY SCOPE OF WORK ? PURCHASE REQUEST FOR CONTRACTED MODIFICATION WAS STARTED FOR ACCOMPLISHING THE SECOND PHASE EFFORT.	126.0		1.0	JUL 83	JUL 83
6 78 7808	LEAK DETECTION TECHNIQUES FOR SMALL SEALED FIRE CON ASSM A PROTOTYPE LEAK DETECTION TEST FIXTURE WAS PARTIALLY COMPLETED DURING FY79. ADDITIONAL FUNDING TO COMPLETE FABRICATION OF THE TEST FIXTURE AND VALIDATE THE NEW PROCESS WAS APPROVED BY OARCOM. THE PROJECT RESTARTED IN DEC 80. A TR HAS BEEN ORAFTEO.	133.2		105.6	APR 79	DEC 81
6 81 7916	APPLICATION OF LOW COST MANOREL MATERIALS MANOREL DESIGN HAS BEEN REVIEWED AND AN INITIAL DESIGN IS BEING DEVELOPED.	168.0		10.6	SEP 83	SEP 83
6 80 7920	CONSERVATION OF CRITICAL MATERIALS FOR GUN TUBES THE SET OF SIX SMALL HEATS WITH VARYING AMOUNTS OF MD AND CR HAVE BEEN FORGED. TENSILE AND CHARPY COUPONS HAVE BEEN SECTIONED AND HEAT TREATED. MECHANICAL PROPERTY TESTS WILL BE CONDUCTED SHORTLY.	236.0	21.9	45.4	SEP 81	SEP 82
6 80 7925	BORE EVACUATOR BORING ENGINEERING AND FEASIBILITY STUDIES HAVE BEEN COMPLETED. A MACHINE SPECIFICATION HAS ALSO BEEN COMPLETED.	111.0		36.5	MAR 82	SEP 82

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6 81 7925	80RE EVACUATOR 80RING A PROCUREMENT WORK DIRECTION FORM AND EQUIPMENT ISSUE FORM HAVE BEEN INITIATED TO PURCHASE THE EQUIPMENT SPECIFIED BY THE FY 80 PORTION OF THIS EFFORT.	248.0		0.4	SEP 83	SEP 83
6 80 7926	HOT ISOSTATIC PRESSING OF LARGE ORDNANCE COMPONENTS CONTRACTS WERE AWARDED TO FOUR VENDORS TO PRODUCE HOT ISOSTATICALLY PRESSED BILLETS.	216.0	26.8	32.0	JAN 82	SEP 82
6 80 7927	GENERATION OF BASE MACHINING SURFACES DURING THIS, THE THIRD REPORTING PERIOD FOR THIS PROGRAM, THE THRUST AREA HAS BEEN IN ENG SPEC AREA. THE SPEC FOR THE SPECIALIZED MACHINE HAVE BEEN COMPLETED IN MAR 81. SPEC WAS THEN SENT TO THE VARIOUS REVIEW AGENCIES AND SHOULD CLEAR FINAL JUNE 81.	86.0		27.2	MAR 81	AUG 82
6 81 7927	GENERATION OF BASE MACHINING SURFACES THE FIRST REPORTING PERIOD FOR THIS PROGRAM, WORK ON THE ENG. SPEC. + PROCUREMENT ARE FINISHED. THE ENG. SPEC. HAS BEEN COMPLETED WHILE THE PROCUREMENT REVIEW HAS BEGUN. ACTUAL PURCHASING CYCLE FOR THIS PROGRAM SHOULD BEGIN IN JUNE 81.	137.0			SEP 84	SEP 84
6 80 7928	ROBOTIZED BENCHING OPERATIONS ASEA WAS SELECTED TO BEGIN TESTING ON THE BREECHING BUSHING WHICH BEGAN IN MARCH 81. TO DATE THE TESTING AT ASEA HAS YIELDED NEGATIVE RESULTS, HOWEVER, ASEA REPRESENTATIVES ARE OPTIMISTIC.	113.0		27.3	AUG 81	JUL 81
6 81 7928	ROBOTIZED BENCHING OPERATIONS (CAM) PENDING RESULTS OF THE FIRST YEAR EFFORT, A WORK PLAN WILL BE GENERATED.	287.0			SEP 83	SEP 83
6 81 7940	SYNERGISTIC PLATINGS WITH INFUSED LUBRICANTS A SCOPE OF WORK DETAILING THE PROGRAM OBJECTIVES AND NEEDED ACCOMPLISHMENTS HAVE BEEN SUBMITTED FOR INITIATION OF PROCUREMENT ACTION.	121.0		13.1	SEP 82	SEP 82
6 77 7943	ANALYSIS FOR MODERNIZATION OF INDUSTRIAL OPERATIONS CASE AND CO., INC PERFORMED A MACHINE REPLACEMENT ANALYSIS, DEFINING EQUIPMENT REPLACEMENTS. INTEGRATION OF EQUIPMENT LAYOUTS AND UTILITIES REQUIREMENTS IS BEING PREPARED AS PART OF A FACILITIES MASTER PLAN.	578.3	247.8	328.1	FEB 78	MAR 82
6 78 7943	ANALYSIS FOR MODERNIZATION OF INDUSTRIAL OPERATIONS WORK HAS BEEN COMPLETED ON THIS PROJECT. A FINAL TECHNICAL REPORT IS BEING PREPARED. NO WORK WAS ACCOMPLISHED DURING THIS REPORT PERIOD AGAINST THIS PROJECT.	441.8	410.7	28.0	JUN 79	OEC 81



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PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 80 7948	ESTABLISH CUTTING FLUID CONTROL SYSTEM A SURVEY HAS DETERMINED THAT COOLANT DILUTION RATIOS ARE NOT BEING MAINTAINED ACCORDING TO MFR'S SUGGESTIONS. A CORRECTIVE PROGRAM HAS BEEN INITIATED. FLOW RATE TESTS INDICATE SLIGHT VARIATIONS TO BE INSIGNIFICANT. ANGLE OF FLUID FLOW IS IMPORTANT.	158.0	122.0	22.2	SEP 81	OCT 81
6 81 7948	ESTABLISH CUTTING FLUID CONTROL SYSTEM PHASE III IMPLEMENTATION IS BEING STARTED EARLIER THAN THE ORIGINAL DATE OF 1 OCT 81. THIS IS AT THE CONTRACTORS REQUEST. THIS IS TO ACCOMMODATE HIGHER THAN EXPECTED HOURLY RATE INCREASES AT THE CONTRACTORS PLANT.	164.0	83.6	4.5	JUL 82	JUL 82
6 79 7949	APPLICATION OF GROUP TECHNOLOGY TO RIA MFR (CAM) THE MICLASS CLASSIFICATION AND CODING AND SUPPORTING GROUP TECHNOLOGY SOFTWARE HAS BEEN IMPLEMENTED. A TOTAL OF 4772 PARTS HAVE BEEN CODED. THE SOFTWARE IS BEING USED TO ESTABLISH FACILITY LAYOUTS UNDER MMT PROJECT 6 80 7949.	123.0	91.5	31.5	FEB 80	JUN 81
6 80 7949	APPLICATION OF GROUP TECHNOLOGY TO RIA MFG (CAM) GROUP SCHEDULING SOFTWARE AND SOFTWARE TO MEASURE THE PART FLOW, MACHINE UTILIZATION, SKILL DISPERSION, AND VERSATILITY OF MACHINE DEPARTMENT IS BEING DEVELOPED. ANALYSIS OF A PROTOTYPE GT CELL FOR CYLINDRICAL PARTS WAS COMPLETED.	155.0		35.0	MAY 82	SEP 82
6 79 7963	GROUP TECH CELLULAR MFG FOR FC COMPONENTS ASSEMBLIES THE INITIAL MIPLAN STD. TEXT AND A DESIGN DATA RETRIEVAL CODE WERE PREPARED. TRAINING FOR MICLASS AND MIGROUP WERE COMPLETED. THE MIPLAN SOFTWARE IS BEING CONVERTED TO OPERATE ON ARRADCOM'S COMPUTER SYSTEM.	188.0	75.0	110.4	JUL 80	SEP 81
6 80 7963	GROUP TECHNOLOGY FOR FIRE CONTROL PARTS AND ASSEMBLIES A REPRESENTATIVE SAMPLE OF MECHANICAL AND OPTICAL FIRE CONTROL SUB-ASSEMBLIES WAS ANALYZED.	303.0	100.0	97.7	DEC 81	MAY 82
6 81 7966	MANUFACTURE OF TRITIUM POWERED RADIO-LUMINOUS LAMPS PREPARED SOW FOR MANUFACTURING CONTRACT.	125.0		5.0	MAR 82	MAR 82
6 80 7985	SMALL ARMS WEAPONS NEW PROCESSES PRODUCTION TECHNOLOGY A TEST OF DIMENSIONAL STABILITY IN MACHINING BARREL BREECHES FOR 30MM GAU-8 WAS PERFORMED ON AN NC LATHE. RESULTS BEING ANALYZED.	349.5	250.4	97.6	MAY 81	SEP 81
6 81 7985	SMALL ARMS WEAPONS NEW PROCESS PRODUCTION TECHNOLOGY PROCUREMENT REQUEST SUBMITTED. EFFORT INCLUDES ULTRASONIC EJECTOR DRILLING AND BROACHING, SINGLE POINT CHAMBER CONTOURING, IMPROVED BROACH DESIGN AND OTHER MACHINING IMPROVEMENTS.	436.0		21.4	OCT 82	OCT 82

S U M M A R Y P R O J E C T S T A T U S R E P O R T  
1ST SEMIANNUAL SUBMISSION CY 81 RCS DRGCMT-301

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 79 7990	IMPROVED FABRICATION AND REPAIR OF ANODES THE DESIGN OF THE LEAD PLATING FACILITY HAS BEEN COMPLETED AND ALL DRAWINGS AND LAYOUTS HAVE BEEN FINALIZED. THE ANODE HAS BEEN FABRICATED. THE WORK OF THE PLATING ASSEMBLY HAS BEEN ISSUED. THIS PROJECT IS COMPLETE. EFFORT TO BE COMPLETED BY #6817990	150.0		150.0	JUN 81	MAR 81
6 81 7990	IMPROVED FABRICATION AND REPAIR OF ANODES ALL DRAWINGS AND SPECIFICATIONS HAVE BEEN COMPLETED. FIXTURES AND ASSEMBLY COMPONENTS HAVE BEEN PROCESSED. FAMILIARIZATION STUDIES WITH THE POLAROGRAPH IS IN PROGRESS.	100.0		63.5	JUN 82	JUN 82
6 81 8001	RAPID FLOW PLATING OF SMALL CALIBER GUN TUBES A SCOPE OF WORK HAS BEEN SUBMITTED FOR PROCUREMENT ACTION. PROCUREMENT ACTION HAS BEEN INITIATED TO OBTAIN MATERIALS INCLUDING CALIBER .50 MACHINE GUN BARRELS.	132.0		0.5	SEP 82	SEP 82
6 80 8004	CO-DEPOSITION OF SOLID LUBRICANTS DURING ANODIZING LABORATORY EVALUATIONS OF CO-DEPOSITED LUBRICIOUS HARDCOATINGS WERE BEING MADE TO ASSESS PROCESS RELIABILITY. AL ALLOY JOURNALS WERE ANODIZED AND WEAR RESISTANCE MEASUREMENTS ARE IN PROGRESS.	121.0		115.3	JAN 81	DEC 81
6 79 8005	ESTABLISHMENT OF THE SPACE MECHANICAL PLATING PROCESS THE EVALUATION OF THE MECHANICAL PLATING PROCESS AS A SUBSTITUTE COATING PROCESS FOR ELECTROPLATING HAS BEEN COMPLETED. THE RESULTS, PROCEDURES AND RECOMMENDATIONS MADE IN THIS PROJECT WILL BE PUBLISHED IN THE FORTHCOMING TECHNICAL REPORT.	150.0		150.0	DEC 79	MAY 81
6 79 8010	PRODUCTION OF ACOUSTIC MICROWAVE FILTERS NO ADDITIONAL WORK WAS PERFORMED UNDER THIS PROJECT. WORK CONTINUES UNDER MMT PROJECT 6808010. A REPORT IS BEING PREPARED.	233.0		229.0	JUN 80	SEP 81
6 80 8010	PRODUCTION OF ACOUSTIC MICROWAVE FILTERS (CAM) THE EQUIPMENT INVOLVED IN THE PILOT LINE IS ASSEMBLED AND SET IN OPERATION. A REPORT IS BEING PREPARED.	150.0		130.0	NOV 80	MAR 82
6 80 8017	POLLUTION ABATEMENT PROGRAM A CONTRACT WAS AWARDED FOR THE PURCHASE AND INSTALLATION OF A RECYCLING SYSTEM FOR WATER BASE CUTTING FLUIDS. THE RECLAMATION OF USED SOLVENTS WAS INVESTIGATED AND RESULTED IN THREE RECOMMENDATIONS. A NEW POLYESTER BAG ELIMINATED RUPTURING PROBLEMS.	171.0		80.2	JAN 81	NOV 81
6 80 8024	HIGH SPEED ABRASIVE BELT GRINDING A CONTRACT HAS BEEN LET AND WORK HAS BEGUN TO PROVIDE THE CONTRACTOR WITH NECESSARY TOOLING TEST PIECES.	324.0	297.6	18.6	SEP 82	SEP 82

SUMMARY PROJECT STATUS REPORT  
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
1ST SEMI-ANNUAL SUBMISSION CY B1 RCS DRMT-3D1

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 79 8025	ELECTRONIC PROFILE READOUT GAGE FOR POWDER CHAMBER CONTROLS ADDITIONAL FUNDS WERE OBTAINED (\$37.4K) AND A CONTRACT AWARDED TO APPLIED OPTOMECHANICAL KINETICS. DELIVERY OF THE GAGING SYSTEM IS PLANNED FOR DEC 81.	106.0	37.0	49.8	JUL 80	JUN 82
6 80 8035	COATING TUBE SUPPORT SLEEVES WITH BEARING MATERIALS FIVE M174 RECOIL MECHANISM PISTONS WERE CLAD WITH AL-BRONZE. DESTRUCTIVE TESTS ON TWO AND LIVE FIRING TESTS ON THREE WERE CONDUCTED. 3,543 RDS WERE FIRED. THE PISTON WAS CONSIDERED IN EXCELLENT CONDITION FOR ADDITIONAL TESTING.	180.0		104.0	MAR 81	AUG 81
6 81 8035	COATING TUBE SUPPORT SLEEVES WITH BEARING MATERIALS EXPLOSIVE BONDING WAS USED TO CLAD INNER AND OUTER BEARING SURFACES OF M174 RECOIL MECHANISM PISTONS WITH AL-BRONZE. SIMULATION AND LIVE FIRING TESTS WILL BE CONDUCTED TO EVALUATE THE CLADDING METHOD.	200.0	10.8	25.9	JUN 82	JUN 82
6 80 8036	WEAPON AIMING SYSTEM FOR THE 6-DOF SIMULATOR THE TV CAMERA CONTRACT HAS BEEN FINALIZED. THIS CAMERA IS HIGH SHOCK RESISTANT CAMERA THAT WILL BE MOUNTED ON THE GUN WHILE FIRING. THIS WILL ALLOW THE GUNNER TO VERIFY THAT THE WEAPON AIM IS THE SAME AS HIS LINE-OF-SIGHT.	126.0	18.8	59.2	SEP 81	APR 82
6 80 8047	PASS THRU STEADY RESTS FOR TUBE TURNING JOB ORDERS HAVE BEEN WRITTEN AND DRAWINGS ISSUED TO MANUFACTURE A VARIETY OF PERIPHERAL EQUIP TO SUPPORT THIS PROJECT. COMPETITIVE BIDDING PROCEDURES ARE BEING USED TO SECURE BIDS FROM A WIDE VARIETY OF MACHINE TOOL BUILDERS.	269.0		37.1	JUL 83	JUL 83
6 78 8048	IMPRVD INSPECTION TECH F/INGOTS + PREFORMS F/ROTARY FORGING THE CONTRACT HAS BEEN NEGOTIATED. THE CONTRACT AWARD HAS BEEN DELAYED AS THE COST WAS GREATER THAN THE AVAILABLE FUNDS. THE ADDITIONAL FUNDS HAVE BEEN MADE AVAILABLE. THE SYS WILL BE DELIVERED WITHIN 280 DAYS AFTER CONTRACT AWARD.	154.0	83.2	67.2	SEP 80	JUN 82
6 78 8049	MANUFACTURING PROCESSES ENERGY CONSERVATION PROGRAM INVESTIGATORS FROM B-C LABS PRESENTED THE RESULTS OF THEIR ENERGY AUDIT IN MAY 81 AND RECOMMENDED MODIFICATIONS TO THE SELAS HEAT TREATMENT SYSTEM. ONE OF THE RECOMMENDATIONS IS EXPECTED TO SAVE 50% OF THE CURRENT FUEL CONSUMPTION.	104.0	51.0	33.6	DEC 79	SEP 81
6 80 8051	APPLICATION AND CONTROL OF MACHINE TOOLS (CAM) WORK FROM MMT 6 79 7802 WAS REVIEWED FOR POSSIBLE APPLICATION TO THIS PROJECT. VARIOUS METHODS FOR ESTABLISHMENT AND CONTROL OF THE RELIABILITY ANALYSIS AND DATA BASE WERE INVESTIGATED. THE PROB OF MACH TOOL HRS VS REQ'D OUTPUT WAS ALSO STUDIED.	100.0		28.0	AUG 81	JAN 81

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CYBI RCS DRCMT-3D1

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 80 8054	OPTICAL SCRATCH AND DIG STANDARDS FOR FIRE CONTROL SYSTEMS CONTRACT STILL NOT AWARDED. PROJECT WILL IMPROVE PROCESSES USED TO FORM OPTICAL SCRATCH + DIG STANDARDS. LINES IN THE METAL DIE USED TO MOLD THE SCRATCH STANDARD WILL BE MADE BY LASER SCRIBING. PLASMA ETCHING WILL BE USED TO FORM THE DIG STANDARDS.	185.0		59.0	AUG 84	AUG 84
6 81 8054	IMPROVED MFR OF OPTICAL SCRATCH AND DIG STANDARDS PHASE II FOLLOW-ON TO FY80 CONTRACT NOT YET AWARDED. WORK WILL ESTABLISH MANUFACTURING AND MACHINE CONTROL PARAMETERS FOR OPTICAL SCRATCH + DIG STANDARDS. SEVERAL NEW OPTICAL SCRATCH + DIG STANDARDS WILL BE BUILT. CONTRACT TO GO TO SMALL BUSINESS.	266.0			AUG 84	AUG 84
6 80 8057	DUAL RIFLING BROACH REMOVAL SYSTEM WORK HAS COMMENCED ON THE MANUFACTURE OF TWO BROACH HEADS DESIGNED TO CARRY THE BROACHES THROUGH THE GUN TUBE AND INTERFACE WITH THE REST OF THE MECHANISM. INTERFACE PROBLEMS PREVENTED THE USE OF A MICROPROCESSOR FOR CONTROL PURPOSES. REDESIGN COMP.	215.0		71.4	SEP 82	SEP 82
6 80 8059	SALVAGE OF CANNON COMPONENTS BY ELECTRODEPOSITION THE DESIGN FOR THE PORTABLE PUMP THRU PLATING SYSTEM IS COMPLETED. DRAWINGS AND SPECIFICATIONS TO PURCHASE OR FABRICATE COMPONENTS ARE UNDERWAY.	152.0		16.0	JUN 81	DEC 81
6 80 8060	IMPROVED MFG PROCESSES FOR FINAL INSPECTION OF CANNON TUBES THE CORPS OF ENGINEERS SELECTED A FIRM TO DEVELOP A SCOPE OF WORK. THE PLAN FOR SCOPE OF WORK DEVELOPMENT IS SCHEDULED TO BE SUBMITTED BY EARLY AUGUST.	363.0	25.0	10.8	DEC 81	DEC 82
6 80 8062	RAPID INTERNAL THREADING INDUSTRIAL SURVEY WAS COMPLETED WHICH REVEALED THAT 'OFF THE SHELF' EQUIP WILL NOT MEET NEEDS OF THIS PROJECT. A DETAILED EQUIP SPEC IS BEING WRITTEN.	69.0		19.9	DEC 81	DEC 81
6 81 8080	HIGH SPEED FABRICATION OF ASPHERIC OPTICAL SURFACES CONTRACT NOT YET AWARDED. PROJECT WILL ESTABLISH TUBULAR TOOL GRINDING + POLISHING TECHNIQUES FOR ASPHERIC TWO-SURFACE SINGLE ELEMENT LENSES. VALIDATION QIL BE ACCOMPLISHED BY ASPHERIC ELEMENT RETROFIT INTO REDESIGNED FIRE CONTROL OPTICAL SYSTEM.	204.0			JUL 82	JUL 82
6 80 8105	ESTABLISH ROUGH THREAD BLANKS, 8-INCH M2D1 BUSHING COMPONENT DRAWINGS HAVE BEEN COMPLETED TO ILLUSTRATE COMPARISON OF PRESENT METHOD TO THAT BEING PROPOSED.	88.0		33.6	SEP 81	DEC 81
6 81 8105	ESTABLISH ROUGH THREAD BLANKS, 8 ? M2D1 BUSHING EQUIPMENT SPECIFICATION HAS NOT BEEN COMPLETED WITH PRIOR YEAR FUNDING. PROCUREMENT WORK ASSOCIATED WITH THIS EFFORT HAS THEREFORE NOT STARTED.	292.0			SEP 83	SEP 83

S U M M A R Y P R O J E C T S T A T U S R E P O R T  
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
1ST SEMIANNUAL SUBMISSION CY 81 RCS ORCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 8D 8106	LARGE CALIBER POWDER CHAMBER BORING BORING 8AR SYSTEM DESIGN DRAWINGS HAVE BEEN COMPLETED. PRECISION POSITIONING SYSTEM SPEC HAS BEEN REVIEWED BY ALL REQ'D ORGANIZATIONS. TOOLING AND INSERTS HAVE BEEN PURCHASED. EQUIP TO TEST SYS IS BEING REQUESTED FROM PEP STORAGE AT RAVENNA AAP.	59.0	1.9	47.9	NOV 81	DEC 81
6 8I 8106	LARGE CALIBER POWDER CHAMBER BORING THIS PROJECT CONTINUES THE WORK STARTED ON MMT 6808106.	159.0		2.4	JUN 83	JUN 83
6 8D 8107	CREEP FEED CRUSH FORM GRINDING ENGINEERING SPECIFICATIONS FOR ALL MAJOR CAPITAL EQUIPMENT TO CONSTRUCT A 100 H. P. CREEP FEED CRUSH FORM PROFILE GRINDING SYSTEM HAVE BEEN COMPLETED. STEPS TO LET A CONTRACT ARE CONTINUING.	578.7		12.4	MAY 83	JUN 83
6 8I 8107	CREEP FEED CRUSH FORM GRINDING A NEW MANUFACTURING SEQUENCING ROUTING AND TESTING TECHNIQUE TO PROCESS THE 105 MM M68 BREECH RING FOR CREEP FEED CRUSH FORM GRINDING OF THE BRACKET SEAT SLOT IS BEING DEVELOPED. IT IS ABOUT 10 PERCENT COMPLETE.	73.0			JUL 84	JUL 84
6 8I 8113	ESTABLISHMENT OF ION PLATING PROCESS FOR ARMAMENT PARTS THIRTY-SIX ARMAMENT COMPONENTS WERE SELECTED AS CANDIDATES FOR THE ION PLATING TRIALS. SCOPES OF WORK WERE WRITTEN TO PROVIDE THE ION COATING SERVICES AND FOR SPECIALIZED EVALUATIONS.	150.0		23.1	SEP 82	SEP 82
6 8I 812D	ADAPTIVE CONTROL TECHNOLOGY (CAM) THE PURPOSE OF THIS PROJECT IS TO PERFORM AN EVALUATION OF A PROCESS CALLED ENERGY ADAPTIVE GRINDING. FEASIBILITY TESTS ARE BEING FORMULATED.	60.0			AUG 82	AUG 82
6 8I 8135	IN-PROCESS CONTROL OF MACHINING A LITERATURE SEARCH WAS CONDUCTED TO IDENTIFY THE LATEST STATE OF THE ART IN COMPUTERIZED APPLICATION OF GAUGING TO ADAPTIVELY-CONTROL THE TOOL/WORK PATH. THE SCOPE OF WORK WAS PREPARED AND SENT TO PROCUREMENT TO INITIATE A REQUEST FOR PROPOSALS.	613.0		14.0	OCT 82	OCT 82
6 8I 8136	IMPROVED IMPULSE PROGRAMMERS FOR HYDRAULIC SIMULATORS PRELIMINARY CONCEPTS HAVE BEEN DISCUSSED. REQUIREMENTS FOR A COMPUTER MODEL ARE BEING GENERATED TO AID IN CHOOSING THE BEST OPTION.	80.0			SEP 83	SEP 83
6 8I 8151	PORTABLE ENGRAVING SYSTEM FUNDING FOR THIS PROJECT WAS NOT RECEIVED UNTIL APRIL. SINCE THEN CONTACTS WITH VARIOUS VENDORS HAVE BEEN MADE AND INITIAL ALTERNATIVE PLANS ARE BEING ANALYZED.	84.0			DEC 82	DEC 82



MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
S U M M A R Y P R O J E C T S T A T U S R E P O R T  
1ST SEMI-ANNUAL SUBMISSION CY 81 RCS DRCHT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED (\$DDD)	CONTRACT VALUES (\$000)	EXPENDED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 81 8152	IMPROVED ANODE STRAIGHTNESS FOR CHROMIUM PLATING A DESCRIPTION OF WORK TO DEVELOP A MANUFACTURING METHOD TO FABRICATE STRAIGHT ANODES HAS BEEN WRITTEN AND SUBMITTED TO THE CONTRACTING OFFICER.	280.0	122.0	11.5	AUG 73	AUG 83
6 81 8153	INCREASING GUN TUBE HEAT TREATMENT CAPACITY PROCUREMENT ACTION HAS BEEN INITIATED TO PROCURE MATERIAL AND EQUIPMENT FOR TESTING.	325.0			MAY 83	MAY 83
6 81 8154	COMPUTER INTEGRATION MFG (CIM), DDNC DATA IS BEING GENERATED TO DEVELOP A SPECIFIC SET OF TECHNICAL REQUIREMENTS FOR THE PILOT DNC SYSTEM. FINAL NEGOTIATIONS ARE TAKING PLACE TO CONDUCT THE FEASIBILITY STUDY THAT WILL DRIVE THE ENTIRE EFFORT.	442.0		D.1	DEC 83	DEC 83
6 81 8165	STANDARDS FOR DIAMOND TURNED OPTICAL PARTS DRAFT SCOPE OF WORK HAS BEEN PREPARED. APPROXIMATELY \$100,000 OF PROJECT FUNDS HAVE BEEN EARMARKED FOR WITHDRAWAL.	289.0			DEC 82	DEC 82
6 80 8208	MATERIAL HANDLING PROJECT IS TECHNICALLY COMPLETE. A FINAL REPORT IS TO BE SUBMITTED. PROJECT RESULTED IN NO NEW KNOWLEDGE FOR ALTERNATIVE MEANS OF HANDLING CANNON TUBES SINCE THE RECOMMENDED ALTERNATIVES HAVE ALREADY BEEN CONSIDERED BY WATERVLIET.	18.0	10.0	8.0	SEP 82	JUL 81
6 80 8209	PILOT PRODUCTION OF GRADIENT INDEX OPTICS A CONTRACT WITH THE UNIV. OF ROCHESTER WILL SCALE UP ION DIFFUSION TECHNIQUES FOR AXIAL GRADIENT INDEX BALNKS. THEY WILL THEN BE GROUND AND POLISHED INTO LENSES AND PROVED IN A SIGHT. U OF R IS USING THE ION DIFFUSION METHOD IN A MOLTEN SALT.	213.0		73.0	DEC 83	DEC 83
6 81 8209	PILOT PRODUCTION OF GRADIENT INDEX OPTICS PHASE II WILL EXPAND LAB TECHNIQUES FOR GRADIENT INDEX OPTICS. VERIFICATION WILL BE MADE THRU RETROFIT TO AN EXISTING SIGHT. A RANGE OF INDICIES WILL BE GENERATED IN A LENSE IN A MOLTEN SALT ION EXCHANGE. CONTINUATION OF 6 80 8209.	274.0		30.0	MAY 83	MAY 83
6 81 8246	IMPROVED GAS CHECK SEAT FINISHING THIS PROJECT IS A LATE START EFFORT AND WILL BE INITIATED IN THE 4TH Q FY81.	60.0			APR 82	APR 82
6 81 8341	HOLLOW CYLINDER CUT OFF MACHINE AN ENGINEERING EVALUATION HAS COMMENCED WITH RECEIPT OF PROJECT FUNDING.	84.0		1.0	JUN 82	JUN 82



MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
SUMMARY PROJECT STATUS REPORT  
1ST SEMIANNUAL SUBMISSION CY 81 RCS ORCMT-301

PROJ NO.	TITLE + STATUS	AUTHO- RIZED	CONTRACT VALUES	EXPENSED LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 80 8342	KEYWAY MILLING MACHINE THE ENGINEERING SPEC WAS FINISHED AND A TWO-STEP PROCUREMENT ACTION HAS BEEN INITIATED.	242.0		24.9	JAN 82	AUG 83

## APPENDICES

## APPENDIX I: COMMAND IDENTIFICATION

# APPENDIX: ARMY ACTION COMMAND/ACTIVITY IDENTIFICATION

<u>Action Command</u>	<u>Acronym</u>	<u>Command Identifier</u>
Materiel Development & Readiness Command	DARCOM	D
Mobility Equipment R&D Command	MERADCOM	E
Communications & Electronics Command	CECOM	F
Depot Systems Command	DESCOM	G
Electronics R&D Command	ERADCOM	H
Army Materials and Mechanics Research Center	AMMRC	M
Natick R&D Laboratories	NLABS	Q
Test & Evaluation Command	TECOM	0
Aviation R&D Command	AVRADCOM	1
Missile Command	MICOM	3
Tank-Automotive Command	TACOM	4
Armament Materiel Readiness Command (Munitions)	ARRCOM (Ammo)	5
Armament R&D Command (Munitions)	ARRADCOM (Ammo)	8
Armament Materiel Readiness Command (Weapons)	ARRCOM (Wpns)	6
Armament R&D Command (Weapons)	ARRADCOM (Wpns)	9
Troop Support & Aviation Materiel Readiness Command	TSARCOM	7

NOTE: Abbreviation - R&D Research and Development

## APPENDIX II: PROJECT SLIPPAGE STUDY

## PROJECT SLIPPAGE STUDY

The purpose of this study is to monitor trends in the timeliness of the MMT Project Execution. Figure 1 is a slippage profile for each command and for the program as a whole. An observation of this data shows that there has been very little change in the project slippage distribution, when comparing the current period with the 1st half CY80. The large number of projects in the "0 Mo" column is caused by the influx of new FY81 projects just funded during the past 6-9 months. Overall the slippage profile tends to be very consistent. The "No Data" column and "0 Mo" column fluctuate depending on the funding of the new fiscal year program. A combination of these two figures has remained consistent from period to period. The other five columns have consistently remained within a +4 percentage point range from reporting period to reporting period.

There are two problems that affect accurate project slippage reporting. One problem is delinquent status reports. If a status report is not submitted for a project, then the slippage will be that which was calculated from the last status report received. During the current reporting period there were 76 delinquent status reports. This is an increase of 46 from the previous period. This increase greatly affects the accuracy of the slippage profile. Unfortunately, there are delinquent status reports every period. Thus, the consistency, though possibly inaccurate, still remains.

Another problem that affects accurate project slippage reporting is the basis on which final status reports are submitted. Some organizations await financial close-out before submitting final status reports. By doing this, several months might be added to the apparent duration of the project. The general policy has been that final status reports should be submitted when the technical work has been physically completed. If outstanding financial action does not hinder project implementation, then the time required for financial close-out is not meant to be added to an indicator which measures engineering achievement. Continued emphasis on using a consistent basis for project close-out, namely technical completion, will provide a more accurate accounting of the technical life of MMT projects. The recently implemented DARCOM policy to consider technical report completion as the project completion will assist in alleviating the problem cited above.



# P R O J E C T   S L I P P A G E   S T U D Y

COMMAND	NO. ACTIVE PROJECTS	PROJECT SLIPPAGE DISTRIBUTION (PERCENT)						
		NO DATA	0 MO	1-6 MO	7-12 MO	13-18 MO	19-24 MO	25+ MO
DARCOM	6		17	33			17	33
MERADCOM	19		32	16	16	16		21
CECOM	11		36	18	27			18
DESCOM	3		67	33				
ERADCOM	45	2	27	16	13	9	11	22
AMMRC	6		50		33	17		
NLABS	5	40	20		20			20
TECOM	3		67			33		
AVRADCOM	71	11	45	8	14	3	8	10
MICOM	67	27	19	13	13	7	10	9
TACOM	44	2	45	9	18	9	2	14
ARRADCOM-ARRCOM (AMMO)	174	4	27	10	22	9	9	18
ARRADCOM-ARRCOM (WPNS)	92	1	46	10	9	12	9	14
TSARCOM	2		100					
	----	---	---	---	---	---	---	---
SUMMARY (DARCOM WIDE)	548	7	34	11	16	9	8	15
1ST CY80 SUMMARY	521	5	34	14	14	11	8	15

\*FIGURES REFLECT DATA ON THE ACTIVE PROGRAM AS OF 2 SEP 81.

Figure 1 - Slippage Profile

## APPENDIX III: USER'S GUIDE

SUMMARY PROJECT STATUS REPORT  
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM  
2ND SEMIANNUAL SUBMISSION CY 80 RCS DRCMT-301

PROJ ND.	TITLE + STATUS	AUTHD- RIZED (\$000)	CONTRACT VALUES (\$000)	EXPENDEO LABOR AND MATERIAL (\$000)	ORIGINAL PROJECTEO COMPLETE DATE	PRESENT PROJECTEO COMPLETE DATE
H 78 9889 A	THIRD GENERATION 0.9 MICRON WAFER INTENSIFIER TUBE (ITT) ITT HAS ITS 12-TUBE PROCESSING CHAMBER TESTED BUT IS WAITING FOR GOOD QUALITY GA-AS CATHODES. DELAY WAS CAUSED BY OTHER WORK PRIORITY AND 3RD GEN TECHNICAL PROBLEMS. REMAINING FUNDS WILL PROVIDE ONLY 12 TUBES. TWO SAMPLE TUBES WERE DELIVERED.	710.1	632.1	75.0	JUN 81	SEP 81
H 78 9889 B	THIRD GENERATION 0.9 MICRON WAFER INTENSIFIER TUBE (VARIAN) VARIAN EXHAUSTED ITS FUNDS AND CANNOT COMPLETE HARDWARE AND SOFTWARE REQUIREMENTS WITHOUT ADDITIONAL FUNDING. VARIAN REQUESTED \$481K MORE. CONTRACT IS TO BE MODIFIED TO REQUIRE ONLY SOFTWARE. SAMPLES MADE IN MULTI-PROCESSOR MET SPECIFICATIONS.	1,060.0	980.0	70.0	JUN 81	OCT 81
H 80 9897	SURFACE ACOUSTIC WAVE RESONATOR + REFLECTIVE ARRAY DEVICES DRY ETCHING PROCESSES ARE BEING TESTED TO DETERMINE THE BEST FOR UNIFORMITY AND REPEATABILITY. ELECTRICAL DESIGNS FOR THE RESONATOR AND COMPRESSOR ARE NEARLY COMPLETED. SEVERAL CONFERENCES HAVE BEEN HELD WITH PROSPECTIVE SUPPLIERS OF PACKAGES.	596.4	569.4	1.5	AUG 82	OCT 82
(1)	(2)	(3)	(4)	(5)	(6)	(7) (8) (9)

THIS FORM IS USED FOR SUMMARIZING  
THE MMT PROGRAM PROJECTS' STATUS.  
USER'S GUIDE BELOW EXPLAINS THE  
SIGNIFICANCE OF EACH COLUMN HEREIN.

# USER'S GUIDE TO SUMMARY PROJECT STATUS REPORT

## COLUMN 1. PROJECT NUMBER

A project identified by the first and last four digits which corresponds to the project title for the life of its execution. However, for accounting and reporting purposes, a project is recognized by the totality of its seven-digit numeric or alphanumeric number. Example:

3 75 6241

Project identifying number, which corresponds to the project title and is designated by action command.

Fiscal year of funding - the only two digits that may vary according to funding frequency (7T for FY transition).

Action command (see list in Appendix I).

## COLUMN 2. Subtask identifier, if any.

## COLUMN 3. PROJECT TITLE

The title descriptive of project effort.

COLUMN 4. An abstract of project status taken from the Project Status report. Whenever possible, technical accomplishments during the reporting period were summarized.

## COLUMN 5. AUTHORIZED

The total amount of funds authorized in dollars, to complete the project.

## COLUMN 6. CONTRACT VALUES

The portion of authorized funds actually expended or obligated for work performed by private industry.

## COLUMN 7. EXPENDED LABOR AND MATERIAL

The portion of authorized funds actually expended in-house, namely within the Government.

## COLUMN 8 ORIGINAL PROJECTED COMPLETION DATE

Calendar date clearly given in, or the nearest calendar month and year as could be read from the Milestone Chart of, the very first Project Status Report, RCS DRCMT-301.

## COLUMN 9. PRESENT PROJECTED COMPLETION DATE

Calendar date clearly given in, or the nearest calendar month and year as could be read from Milestone Chart of, the latest Project Status Report, RCS DRCMT-301.

#### APPENDIX IV: ARMY MMT PROGRAM REPRESENTATIVES

## ARMY MMT PROGRAM REPRESENTATIVES

### HQ, DARCOM

US Army Materiel Development and Readiness Command

ATTN: DRCMT

5001 Eisenhower Avenue

Alexandria, VA 22333

C: 202 274-8284/8298

AV: 284-8284/8298

### AVRADCOM

US Army Aviation R&D Command

ATTN: DRDAV-EGX, Mr. Dan Haugan

4300 Goodfellow Blvd.

St. Louis, MO 63120

C: 314 263-1625

AV: 693-1625

### CECOM

US Army Communications Electronics Command

ATTN: DRSEL-POD-P-G, Messr Feddeler/Esposito/Resnic

C: 201 535-4926

AV: 995-4926

ATTN: DRSEL-LE-R, Mr. William Coutros

Fort Monmouth, NJ 07703

C: 201 532-4035

AV: 992-4035

### ERADCOM

US Army Electronics R&D Command

ATTN: DELET-R, Mr. Joseph Key

Fort Monmouth, NJ 07703

C: 201 544-4258

AV: 995-4258

### MICOM

US Army Missile Command

ATTN: DRSMI-RST, Mr. Richard Kotler

Redstone Arsenal, AL 35809

C: 205 876-2065

AV: 746-2065

### TACOM

US Army Tank-Automotive Command

ATTN: DRSTA-RCKM, Dr. Jim Chevalier

Warren, MI 48090

C: 313 573-6065/5814

6467

AV: 786-6065/5814/6467

### ARRCOM

US Army Armament Materiel Readiness Command

ATTN: DRSAR-IRI-M, Mr. Stephen Robinson

Rock Island Arsenal

Rock Island, IL 61299

C: 309 794-4485/5446

AV: 793-4485/5446

### ARRADCOM

US Army Armament R&D Command

ATTN: DRDAR-PMP-P, Mr. Donald J. Fischer

Dover, NJ 07801

C: 201 328-2708

AV: 880-2708



TSARCOM

US Army Troop Support and Aviation Materiel Readiness Command

ATTN: DRSTS-PLE, Mr. Don G. Doll

4300 Goodfellow Blvd.

St. Louis, MO 63120

C: 314 263-3040

AV: 693-3040

MERADCOM

US Army Mobility Equipment R&D Command

ATTN: DRDME-UE, Mr. R. Goehner

Fort Belvoir, VA 22060

C: 703 664-4221

AV: 354-4221

NLABS

US Army Natick R&D Laboratories

ATTN: DRDNA-EZM, Mr. Frank Civilikas

Natick, MA 01760

C: 617 653-1000, X2793

AV: 955-2349/2351

TECOM

US Army Test & Evaluation Command

ATTN: DRSTE-AD-M, Mr. Grover Shelton

Aberdeen Proving Ground, MD 21005

C: 301 278-3677

AV: 283-3677

AMMRC

US Army Materials & Mechanics Research Center

ATTN: DRXMR-PMT, Mr. Raymond Farrow

Watertown, MA 02172

C: 617 923-3523

AV: 955-3523

HDL

Harry Diamond Laboratories

ATTN: DELHD-PO, Mr. Julius Hoke

2800 Powder Mill Road

Adelphi, MD 20783

C: 202 394-1551

AV: 290-1551

RIA

Rock Island Arsenal

ATTN: SARRI-ENM, Mr. Joseph DiBenedetto

Rock Island, IL 61299

C: 309 794-4627/4584

AV: 793-4627/4584

WVA

Watervliet Arsenal

ATTN: SARWV-PPI, Mr. T. Wright

Watervliet, NY 12189

C: 518 266-5319

AV: 974-5319

MPBMA

US Army Munitions Production Base Modernization Agency

ATTN: SARPM-PBM-DP, Mr. Joseph Taglairino

Dover, NJ 07801

C: 201 328-6708

AV: 880-6708

AMRDL

US Army Applied Technology Laboratory

USARTL (AVRADCOM)

ATTN: SAVDL-EU-TAS, Mr. L. Thomas Mazza

Fort Eustis, VA 23604

C: 804 878-5732

AV: 927-5732

DESCOM

US Army Depot System Command

ATTN: DRSDS-PE, Mr. Jim Shindle

Chambersburg, PA 17201

C: 717 263-6321

AV: 242-6321

IBEA

US Army Industrial Base Engineering Activity

ATTN: DRXIB-MT, Mr. James Carstens

Rock Island, IL 61299

C: 309 794-5113

AV: 793-5113

HQ, DA

DCSRDA

ATTN: DAMA-PPM-P, Mr. R. Barnett

Room 3C400, The Pentagon

Washington, DC 20310

C: 202 695-0506/07/08

AV: 225-0506/07/08

DCSRDA (PA 1497, Aircraft)

ATTN: DAMA-WSA, LTC Jay B. Bisbey

Room 3B454, The Pentagon

Washington, DC 20310

C: 202 695-1362

AV: 225-1362

DCSRDA (PA 2597, Missiles)

ATTN: DAMA-WSM-A, Mr. John Doyle

Room 3B485, The Pentagon

Washington, DC 20310

C: 202 695-8740

AV: 224-8740

DCSRDA (PA 3297, Weapons; PA 3197, Tracked Combat Vehicles)

ATTN: DAMA-WSW, LTC Raymond Roskowski

Room 3D455, The Pentagon

Washington, DC 20310

C: 202 697-0106

AV: 227-0106

DCSRDA (PA 5297, Communications/Electronics)

ATTN: DAMA-CSC-BU, MAJ Paul Harvey

Room 3D440, The Pentagon

Washington, DC 20310

C: 202 695-1881

AV: 225-1881

DCSRDA (Other Procurement Activities:

PA 5197, Tactical and Support Vehicles)

ATTN: DAMA-CSS-P, LTC L. R. Hawkins

Room 3D416, The Pentagon

Washington, DC 20310

C: 202 694-8720

AV: 224-8720

DCSRDA (Other Procurement Activities:

PA 5397, Other Support)

ATTN: DAMA-CSS-P, LTC P. K. Linscott

Room 3D418, The Pentagon

Washington, DC 20310

C: 202 694-8720

AV: 224-8720

DCSRDA (PA 4950, Ammunition)

ATTN: DAMA-CSM-DA, COL Jack King

Room 3C444, The Pentagon

Washington, DC 20310

C: 202 694-4330

AV: 224-4330

DCSRDA (PA 4950, Ammunition)

ATTN: DAMA-CSM-P, Mr. John Mytryshyn

Room 3C444, The Pentagon

Washington, DC 20310

C: 202 694-4330

AV: 224-4330

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